



PLANT DETECTIVES

Windshield Botany

Barbara Plampin, Ph.D.
Life Director, Shirley Heinze Land Trust



Stiff gentian ©2000 Eleanor S. Saulys

threatened long-beaked bald rush (*Psilocarya scirpoides*).

Sometimes walking just a few feet from the car does the trick. Numerous tiny late coralroots (*Corallorhiza odoratrhiza*), possibly the world's ugliest orchid because of its sallow flowers, once appeared on the sandy shoulder of a rarely used Duneland road. Last summer, four state rare shining ladies' tresses (*S. lucida*) bloomed in gravel edging a road more traveled. This orchid population had crashed from the previous summer's 50 because of flooding by beavers.

Last fall, "Dan, Dan, the Orchid Man," a.k.a. Dan McDowell, a retired steel mill worker, thrilled us plant hunters by announcing his discovery of, not yet another orchid, but 60 or more stiff gentians (*Gentiana* or *Gentianella quinquefolia occidentalis*) just 25 feet from a busy Lake County thoroughfare. Stiff gentian isn't state listed (Deam shows it in 20 counties), but, except for reports from St. Joseph County, it was hitherto unknown from the Chicago region's Indiana counties.

Growing on a slight, somewhat clayey slope above a fen, plants were in flower on September 26. Dan's photos show that stiff gentian is indeed stiff. With their slim tubes and five slightly flaring, pointed, bristle-tipped petals, the densely clustered terminal and axillary lavender-blue flowers resemble rockets straining for take-off.

Dan's find is the more remarkable because several of us missed it on an earlier visit. After noting prairie dock, big bluestem grass, and closed (bottle) gentian (*G. andrewsii*), we'd skedaddled, put off by the plenitude of exuberant poison ivy shrubs. How to distinguish vegetative stiff from closed gentian? Stiff is shorter (16–20 inches) and has ridged stems and clasping leaves.

Retired English professor Barbara Plampin is a member of INPAWS and Save the Dunes Council. Botany is her lifelong avocation.

BOOKS

Deam, C. *Flora of Indiana*. Blackburn Press, 2002 (1940). J. Cramer.

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Northwest Indiana plant detectives don't have to beat down miles of cattails or bog-slog to find rarities.

I don't emulate a cousin who bird-watches while driving, but as a passenger I've spotted coastal plain disjunct Virginia chain fern (*Woodwardia virginica*) and state endangered small forget-me-not (*Myosotis laxa*) in roadside ditches. However, a friend did locate the rare yellow wild indigo (*Baptisia tinctoria*) from the driver's seat. Before reconstruction, a cloverleaf on I-65 harbored nodding ladies' tresses (*Spiranthes cernua*) and state

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INDIANA NATIVE PLANT and Wildflower Society

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All are invited to submit articles, news items, and event postings of interest to our membership. Acceptance for publication is at the discretion of the editor. INPAWS welcomes opposing viewpoints.

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Spring
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Summer
May 23 for July 1 mailing

Autumn
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INPAWS Mission

To promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity, and environmental importance of indigenous vegetation.

Membership

INPAWS is a not-for-profit 501(c)(3) organization open to the public. For membership information, visit www.inpaws.org.

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A New Beginning

Rebecca Dolan

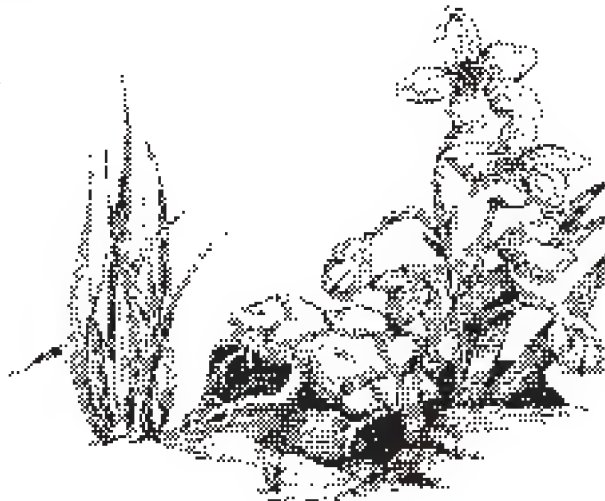
Hello, friends. By the time this reaches you, spring should be well on its way. Early spring blooming forest trees will have released their wind-vectored pollen, unfortunately triggering hay fever in those who are sensitive. The earliest herbaceous bloomer in the woods here at Butler University, harbinger-of-spring (*Erigenia bulbosa*)—gotta love that name—will be well along.

The study of the timing of significant life-history events in nature is referred to as “phenology.” Active INPAWS member and past president Ruth Ann Ingraham has brought to my attention a nationwide program that is enlisting citizen phenology observers to record flowering times and other information on selected native plants. The program’s originators will use these observations to help monitor changes that may be due to climate change. If you would like to be involved, visit the National Phenology Network at www.uwm.edu/Dept/Geography/npn/. Ruth Ann is a careful observer of nature, as is evident in her insightful book, *Swimming with Frogs: Life in the Brown County Hills*, recently published by Indiana University Press.

This issue of the newsletter is the first for new editor Wendy Ford. Wendy has researched the wonderful information and presentation of past issues and is shaping a vision for the newsletter’s next 10 years. Please let her know what you would like to learn and read about, and please consider contributing yourself.

We would love to know where members’ favorite wildflower viewing areas are, to hear about successes and failures you have had in gardening with natives, and to cover topics of interest to the membership.

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or 317-334-1932.



Spring peeper by Chris
Carlson in *Swimming with
Frogs* ©2005

Beetles Making Progress Against Purple Loosestrife

Rich Dunbar, Northeast Regional Ecologist
Indiana Department of Natural Resources

Purple loosestrife is an invasive weed that spreads across wetlands, displacing native plants and disrupting natural communities. It has been 10 years since IDNR first released the beetle *Galerucella* to control purple loosestrife. Since then, we have released the beetle at 48 different sites.

Purple loosestrife is a long way from disappearing, but each year *Galerucella* noticeably reduces purple loosestrife at more and more of those release sites. And, the beetles are flying from the release sites to nearby wetlands.

The data we have collected confirms our visual observations. As yet the purple loosestrife plants are no fewer, but they are much shorter and/or flowering much less and producing fewer seeds. Shorter loosestrife is less able to crowd out the native plants, allowing the native plants to recover. Pictures of the dramatic decreases that *Galerucella* can cause may be seen at www.in.gov/dnr/entomolo/programs/purple2.htm.

Two other insects are helping us control purple loosestrife. We have released a root-mining weevil (*Hylobius*)* at 14 sites and a flower-feeding weevil (*Nanophyes*) at 5 sites. Neither is likely to produce the dramatic results of *Galerucella*, but they should help over the long haul.

We will keep working to achieve an actual reduction in the number of purple loosestrife plants. So far *Galerucella* has been able to reduce their size and open up space for native plants in a wetland far too big for us to control by spraying. That is an encouraging start.

Adapted from IDNR Natural Area News, Winter 2005.

*For more about the *Hylobius* weevil, see page 10 of our Autumn 2004 issue.

Tulip Tree, *Liriodendron tulipifera* L.

Popular Poplar

Marion T. Jackson, Ph.D.
Professor of Ecology
St. Mary-of-the-Woods College

Large as the marble columns that once supported Grecian temples and nearly as straight and fluted, a pair of massive tulip tree trunks rises from the lowground section of Hemmer Woods Nature Preserve in Gibson County, Indiana.

Our eyes are drawn upward along the near-perfect boles to green-golden crowns silhouetted against an azure September sky. These forest giants, their topmost branches towering to more than 150 feet, dwarf their associates. On fertile, well-drained soils of the Lower Wabash Valley, and especially in coves and low-elevation ravines of the Southern Appalachians, majestic tulip trees were once the monarchs of eastern forests, some reaching 10 feet in diameter and heights of more than 190 feet.

"How old do you think they are?" comes the inevitable question from one of my graduate students as I tape the largest of the pair at nearly 5 feet dbh (diameter at breast height). At an average growth rate of 10 years per inch of radius, the trees would have begun growing about 100 years before the American Revolution. In their youth, these trees must have heard the howls of wolves and the laughter of Indian children. Their large branches knew the weight of passen-

ger pigeon flocks and felt the drumming of ivory-billed woodpeckers. A hundred generations of raccoons and gray squirrels sunned themselves on their massive limbs.

If individual tulip trees are "old," then the species is ancient. An examination of its beautiful two-inch orange and green tulip-shaped flowers reveals the species' early origin, as do its truncated, simply lobed leaves which in silhouette also resemble a tulip flower. The numerous stamens and many fused carpals of its flowers today resemble closely those of fossils dating from the Tertiary geological period 60–70 million years ago when dinosaurs populated the Earth. At that time, the ancestors of *Liriodendron* (literally "tulip tree") grew all around the world in temperate zone forests. Glaciation during the Pleistocene Ice Age fragmented their circumpolar distribution, forcing the North American popula-

tion southward towards refuges in the Appalachian coves. Other populations survived in southeastern Asia where a sister species, *Liriodendron chinensis*,

evolved after the ice receded, and some still survive in central China.

Surprisingly, only Indiana has the beautiful tulip tree as its State Tree. Tall, stately, fast-growing, and essentially disease-free, this handsome tree is common

in mesic forestlands and is popular for ornamental use in parklands and residential plantings. Although not one of the true poplars, which include the cottonwoods and aspens, the pioneers called it "yellow-poplar" because of its soft, smooth, even-grained yellow-green heartwood.

Yellow-poplar was a favorite wood of the early settlers. Lightweight and easily chopped, split, and hewed, it was the tree most commonly used for cabin logs and fence rails. An added benefit was that the durable heartwood resisted decay and termites. Kept dry, well-founded, and roofed, cabins of huge poplar logs often stood for 150 to 200 years. A few original cabins surviving in Indiana are constructed of logs of incredible proportions—up to 32 inches on the broad faces, 8 to 10 inches thick, and 30–40 feet long.

Pioneers also made much furniture from yellow-poplar because it sawed, planed, and sanded easily with carpenter's hand tools. Other early uses



included gate lumber, house and barn siding, boat construction, shingles, broom handles, food containers, and pulpwood for making postal cards. Native Americans alternately charred and adzed huge logs into dugout canoes, hence the early name of “canoewood” for the species. Yellow-poplar was virtually the “redwood” of eastern forests. As an added bonus, its showy flowers were an important nectar source for honeybees.

Seeds and seedlings tell the story of the tulip tree’s success. The species has survived for 70 million years by a reproductive strategy adapted to forest disturbance. Veteran tulip trees shower their surrounding acre with thousands of wind-dispersed seeds each year for a century or two before a break in the forest canopy occurs, thereby enabling the species rapidly to invade natural forest openings or cut forestland when the opportunity arises.

Enough seeds are rained onto the land to feed the cardinal, the quail, and the purple finch. The fox squirrel, chipmunk, cottontail, and white-footed mouse dine on them as well. Still enough are left over to germinate into thickets of young seedlings wherever sufficient sunlight is present, only to have the duck-billed buds and tender twigs of many of their population nipped by browsing rabbits and white-tailed deer. Occasional fires sear the cambium of others.

Despite such enormous losses, a family of young trees of varying sizes and ages often stands in close ranks all about the old “mother” seed tree. The fast growth of these survivors in mesic

sunlit sites enables them quickly to outrace all competitors. Beautiful, tall, straight young trees grow to saw log size in 50 years on fertile soils, making the species a favorite for forest regeneration.

From the emergence of the tender green spring leaves, through the showy flowers of early summer, until the pyramidal crowns turn into candle flames of yellow-gold in October, the tulip tree is one of the most-loved of American trees. After the leaves fall, the pointed pickle-shaped fruiting

“cones” shed their many seeds into warm fall winds to begin new groves in untended fields.

But only in the winter woods do huge tulip trees reach their true majesty. It is then that the great clear lengths of the fluted trunks lead to lofty spreading crowns topped by the remaining pencil-thin seed cone receptacles—Nature’s own candelabra—that seem to pierce the overcast sky like Nature’s lightning rods.

Marion Jackson is also Professor Emeritus of Ecology at Indiana State University.



Tulip poplar in winter ©Susan W. Sweeney 2004



INPAWS Sponsored Programs

Coming Up

April 9 (Saturday)—Morning hike and afternoon work day at **Turkey Run State Park**. Hike led by Rich Scott who is doing a floristic survey of the park. Meet at 9:00 am at the Nature Center. Please RSVP to Lynn Dennis.

May 7 (Saturday)—**Native Plant Sale and Auction**, St. Pius X School, Indianapolis. Drop off plant donations Friday evening (see announcement on page 8).

June 4 (Saturday)—Visit to **Munchkin Nursery and Gardens**, Depauw, Indiana, followed by lunch at a local restaurant.

Down the Road

July 17 (Sunday)—Talk and hike at **Brown County State Park**. Jim Eagleman will discuss the recovery of flora in the park after years of deer culling. Meet at 1:00 pm at the Nature Center.

August 27 (Saturday)—Tour of **Cressmore Prairie**, Lake County, owned by the Shirley Heinze Land Trust. Led by "Plant Detective" Barbara Plampin. Meet at 8:30 am (local time).

September 9–11 (Friday–Sunday)—Bus trip to **Missouri Botanical Garden**.

October 15 (Saturday)—Mosses and lichens at **Plaster Creek Seep**, Martin County. Hike led by Bill McKnight and Harold Allison.

November 5 (Saturday)—**INPAWS Annual Meeting**.

For further details visit www.inpaws.org or contact Lynn Dennis at 317.951.8818 or ldennis@tnc.org.

INVASIVES

Japanese Stilt Grass

Ellen M. Jacquart, Director of Stewardship
Indiana Chapter of The Nature Conservancy

Be on the lookout for our fastest-moving plant invader—Japanese stilt grass (*Microstegium vimineum*).

Natural History

Japanese stilt grass is an annual grass introduced into the United States as a result of its use as a packing material for porcelain, giving rise to its other common name, Chinese packing grass. First identified in Tennessee in 1919, it has since spread to most of the states east of the Mississippi. The seeds are small and easily transported by boots, tires, and water, allowing it to move very quickly from one site to another.

Range and Habitat in Indiana

The species arrived in southern Indiana in the early 1990s and has moved northward at a steady pace. It first appears along roads, trailheads, and trails and then moves into adjacent forest. It is now well-established through portions of south central Indiana and in summer 2004 was found as far north as Turkey Run and Shades State Parks in west central Indiana. At this rate, it will reach northern Indiana in a few years.

Identification

Good news! This is one of the few grasses that can be readily identified even without flowers or fruits. Look for a distinctive silvery stripe down the center of each upper leaf surface. The leaves are around 3 inches long, lance-shaped, and a bit asymmetrical. The plant has a sprawling habit and grows slowly through the summer months, ultimately reaching heights of 2 to 4 feet—it reaches the larger heights where the plants receive more light and water. Slender stalks of tiny flowers are produced in late summer (August–September). Soon after flowering, the fruits mature and immediately fall from the plant. The plant dies back completely by late fall, leaving orange-tinged dead plants sprawled over the ground.

Reproduction

Stilt grass reproduces exclusively by seed. Individual plants may produce 100 to 1,000 seeds that fall close to the parent plant. Seed may be carried further by water currents during heavy rains or moved in contaminated hay, soil, or potted plants and on footwear. It is no coincidence that this species almost always shows up first on public land at trailheads—hiker's boots are moving it around! Stilt grass seed remains viable in the soil for five or more years and germinates readily.

Impacts

Japanese stilt grass is especially well adapted to low light conditions, making it a serious threat to our forest communities. Once introduced along roads, trails, or other disturbed areas, the grass moves into the understory of forests. It forms a complete lawn in the understory, out-competing and displacing native wildflowers, ferns, and tree seedlings. Where white-tail deer are overabundant, they may facilitate its invasion by feeding on native plant species and avoiding stilt grass.

Control

PREVENTION is the best answer! If it is not yet in your area, keep it out by being sure to brush your boots after visiting forested areas in central or southern Indiana. Do not carry this invader into new areas on your boots.

Once it is established in an area, the species can be controlled in a couple of ways:

Manual/Mechanical—For very small infestations, simply pull the plants out of the ground before they flower. For larger areas, weed-whack the plants to the ground in September, shortly before they produce seed but too late for them to regrow before the first frost. Since Japanese stilt grass is an annual, preventing the plants from setting seed is all you need to do to eliminate the species from an area. Of course, it will be necessary to pull or mow areas again each year until all the seeds are gone from the site.

Chemical—For extensive infestations where mechanical methods are not practical, systemic herbicides such as glyphosate (tradename RoundUp, or Rodeo in wetland sites) or grass-specific herbicides like fluazifop-p-butyl (tradenames Fusilade or Fusion) are effective. Spraying areas with a very dilute solution of Fusion (1/2%) plus a surfactant has been very successful at killing stilt grass without impacting other species, even perennial grasses. Plants should be sprayed between June and August, when the plants are actively growing but before flowering. Spraying is generally more effective earlier in the summer and less effective during droughty periods.

Japanese stilt grass is an example of an invasive plant that is being spread inadvertently by all of us who hike in the outdoors. In the next issue, Ellen will write more about what you can do to stop spreading these species.

Have you seen This plant?



Closeup of leaves showing telltale silvery stripe.



Hoads of Japanese stilt grass seedlings find the low-light conditions of the forest floor quite cozy.

FEATURED INPAWS EVENT

2005 Native Plant Sale and Auction

Saturday, May 7
Ross Hall, St. Pius X School, Indianapolis

Friday, May 6, Plant Drop-Off

5:00 to 8:00 pm—Donors may drop off plants at the school. Enter through the back door and take plants to the cafeteria. We appreciate your donations!

Saturday, May 7, Main Event

10:00 am—Doors open, plant sale begins.

11:00 am—Auction begins with auctioneer Michael Stelts.

Volunteers are needed to receive donations Friday night and assist with the Saturday main event. Please contact Julie Beihold at 317.852.8640 or iepdb@iquest or Karen Hartlep at 317.253.6164 or knartlep@interdesign.com.



2004 auctioneer Rolland Kontak holds forth, assisted by Kevin Tungesvick and Sue Nord Peiffer.

- Woodland Varieties
- Prairie Plants and Grasses
- Ferns
- Trees and Shrubs
- Water Plants

Something for Everyone

If you're new to native plants, the Native Plant Sale and Auction is a great way to learn about plants that may be right for your garden conditions.

If you're already growing natives, this is a chance to share the bounty of your garden and plant the seeds of interest in a fellow Hoosier.

What to Expect

The most unusual, hard-to-find, or just spectacular items are set aside for the auction. The rest are snapped up by eager shoppers, usually before the auction begins.

Payment is by cash or check only. Refreshments are cheerfully provided by INPAWS volunteers.

Directions

St. Pius X School is at 7200 Sarto Drive, located north of 71st Street, four blocks east of Keystone Avenue. Enter school parking lot from Sarto Drive north of the church.

Donations

Plants come primarily from our members, but we also receive generous donations from many nurseries.

Last year's business donors included Spence Restoration Nursery, Muncie; J.F. New, Indianapolis and Walkerton; Woody Warehouse, Lizton; Altum's Horticultural Center & Gardens, Indianapolis; Mark M. Holeman Inc., Indianapolis; Wild Birds Unlimited (Keystone Avenue), Indianapolis; and Munchkin Nursery, Depauw.

Thank you to all who bring us native plants to sell or auction. We could not do this without you.

Donor Tips

Veteran auctioneer Rolland Kontak offers these tips for plant donors.

Desirability, eye appeal, cleanliness, rarity—these are the qualities that attract the best prices.

DESIRABILITY: Your donation's ranking relative to others of the same species.

RARITY: Unique species, or especially well grown "common" species.

EYE APPEAL: The attractiveness of your donation.

CLEANLINESS: Pot is not muddy, cracked, weedy.

Just think of a shopping trip to your favorite nursery store. You pick only the best, you pass on wilted, muddy, dirty pots. You delight in finding just a few of a hard-to-get plant. Your eye pops quickly over the display and mentally discards most of them, but that bushy one on the corner just HAS TO go home with you.

DO, PLEASE DO!! Bring your donations the night BEFORE the sale.

DO: Pot up about a month before, so your treasures are well established.

DO: Label each pot with the common and scientific name.

DO: Use attractive labeling sticks or other devices.

DO: Wipe your pots a day or so before the sale.

DON'T: Bring non-native plants.

DON'T: Bring your plants the morning of the sale, unless absolutely impossible to bring them the night before.

DON'T: Forget eye appeal. Would YOU buy your donation?

DON'T: Forget to attend the sale, help the night before, and lend your knowledge to our visiting buyers.

Indiana Spring

Hilary Cox, Leescapes
Garden Design LLC

The first time I saw Indiana was from a train window in May. The view was charming—typical expanses of agricultural land dotted sparsely with farmhouses surrounded by evergreen windbreaks and flowering redbuds, dogwoods, and crabs. Little did I know, back in 1986, that I would eventually live in Indiana and get to know it better than anywhere else I have lived. Even less did I know how that charming landscape I crossed bore little resemblance to its previous incarnation—wide open prairie with “...the ornamental clumps of full-grown oaks scattered by the hand of nature so that they defy imitation by art” (from John Madson’s *Where the Sky Began: Land of the Tallgrass Prairie*).

Now I know better. I still find the Indiana landscape charming, but for its true self: for its dunes and wetlands, its remnant prairies and forests, its gentle rolling hills in the south with the mighty Ohio flowing through, to the flat plains of prairie land in the northwest; and for its natural inhabitants, the indigenous flora that has become my life. Now I know where, and when, to find the native floral display that each season offers to Hoosiers and their visitors.

I am horrified by how many people, born and raised in this state, have never wandered out into the woods in April to see the magic carpet of colour under their feet. Let me encourage you right now, if you number yourself amongst these, to get out and do so this year! You are in for a treat, for April is the month of forest “herbs” as they are collectively termed: ephemerals and perennials that thrive on the nutrients, bacteria, and fungi conveniently provided by the trees (see *The Hidden Forest* by Jon R. Luoma).

Let’s stop a moment and contemplate what I’ve just said. These herbs thrive under trees! How many times, in my work as a garden designer, do I hear the refrain “I’ve got shade, and nothing grows there”? Please tell me why you think nothing grows in the shade when there’s this fairytale going on in your woods in April? I can’t even count the flowers that I’ve seen growing in just one woodland, never mind identifying them all!

Many of these are plants that were discovered by early English botanists and sent back to the motherland; then tested for garden worthiness, hybridized, incorporated into the vast selection of plants for our gardens...and shipped back to the United States as English flowers! In some

cases it has taken more than 200 years for some of these wonderful plants, now returning to roost “back home in Indiana,” to be appreciated where they belong.

Let’s consider what makes a plant garden-worthy. To me, a garden-worthy plant grows in a variety of soil and light situations, blooms reliably for a long period of time, is relatively long-lived, and is reasonably “well-behaved”—that is, it does not try to hound every other plant out of its vicinity. Fragrance is an added benefit, as is the ability of the nectar, pollen, or seed to attract pollinators and birds. So which of our April woodland plants fit these criteria?

We can start with a plant everyone knows: columbine. Until relatively recently, your home-grown, uniquely coloured *Aquilegia canadensis* was not commonly seen in gardens of the Midwest. These plants are reliable and self-sow with nice restraint, just sufficient to keep stock going should some die out, but never becoming invasive. Their airy,

delicate, red and yellow bells dance on the long stems for weeks on end, making a display worthy of any garden. Planted in swathes, they are impressive.

Another familiar woodland inhabitant rarely seen in gardens is cranesbill. *Geranium maculatum* sometimes flowers in late April and continues through June. When the lavender blooms finish, the seed heads continue to provide interest and, in fall, the leaves turn red and orange. And how about wild Sweet William, woodland phlox, or *Phlox*



Wild columbine ©2000 Donald Davidson
www.nps.gov/plants/cw/watercolor/index.htm

divaricata? In my garden some of the cultivars bloom for three months—and the fragrance is knockout!

Both cranesbill and woodland phlox self-seed with restraint—I have never found one yet in a place I didn't want it—and often some of their leaves remain visible throughout the winter, making these valuable four season plants. Why don't I see masses of these plants in everyone's garden? Is the reason the old adage "familiarity breeds contempt"? Some of my oldest friends have, with closer familiarity, inspired only higher admiration. Can't it be the same with plants?

Of course, many, many more woodland inhabitants appear on my list of garden worthies. To discover your own, I urge you to observe your native flora closely through all the seasons; a good book to get you started is *Wildflowers of Indiana Woodlands* by Runkel and Bull. Then come to the INPAWS Native Plant Sale and Auction and take home as many of them as you can lay your hands on! Make a splash of colour and fragrance in your own back yard that's just as magnificent as the one nature provides for those who have learned to see!

British-born Hilary Cox makes her home in an antique Indiana farmhouse on land where the topsoil runs 18 inches deep. Her garden designs using native plants have been featured in Better Homes & Gardens and Fine Gardening.

TRANSITIONS

Speakers Bureau Pioneer Passes the Baton

After a decade of service, Colletta Kosiba has retired as Director of INPAWS' Speakers Bureau. The Bureau was born in the first year of INPAWS' existence, and Colletta has served as writer, director, producer, key grip, and sometimes actor for the Bureau ever since.

Colletta created slide shows and scripts. She coordinated speakers and engagements. She made sure materials were shipped to the right person at the right time. Through her efforts, hundreds of Hoosiers have had the opportunity to learn more about our native plants.

Colletta recently turned over a perfectly organized set of records and materials to an impressed Kit Newkirk, who will try to fill her enormous shoes.

INPAWS members are welcome to borrow any of the slide shows and scripts to make presentations around the state. Colletta also rounded up a stable of 15 volunteer speakers, INPAWS members who give generously of their time to educate Indiana on the subject of native plants.

To borrow a slide show or schedule a speaker:

Please contact Kit Newkirk at 765.653.5590 (w) or 765.526.2202 (h) or Kit@GamePreserve.com.

Our thanks to Colletta Kosiba
and to all the following who in 2004
volunteered to share their enthusiasm
for Indiana's natural heritage.

Spring Wildflowers

Wabash Valley Garden Club: Joanne Fiscus
Marion County Master Gardeners: Colletta Kosiba
Mothers and More, Brownsburg: Julie Beihold
Heartland Sierra Club: Tina Meeks
Eagle Creek Garden Group: Colletta Kosiba
Brownsburg Public Library: Colletta Kosiba
Sugar Creek Historical Society: Kelly Frank
Pendleton Garden Club
Elkhart Public Library Adult Education: Gretel Smith

Native Trees & Shrubs

Eckhart Public Library: Gretel Smith
Greencastle Library: Katherine Newkirk
Sugar Creek Historical Society: Kelly Frank
Allen County Izaak Walton League: Gretel Smith
Speaker in Garnett, Indiana

Invasive Plants

Common Ground Garden Club: Art Hopkins
Audubon Monroe County Library: P.J. Pulliam
Polymtics of Valparaiso: Pat Tabor
Advance Master Gardener Training, Danville: Mike Rian
Master Naturalist Class, Hancock County: Becky Pfeifer

Naturalized Flowers & Their Weedy Cousins

State Garden Wildflower Workshop, Bradford Woods:
Colletta Kosiba

Endangered Wildflowers

State Garden Wildflower Workshop, Bradford Woods:
Susan Ulrich

Gardening with Native Plants

State Garden Wildflower Workshop, Bradford Woods:
Phyllis Goble

Edible Plants

State Garden Wildflower Workshop, Bradford Woods: Dan
Anderson

Native Shade Plants

Art Hopkins

Summer Wildflowers

Master Gardeners of Newton & Jasper Counties: Alyssa
Solomon
Eckhart Public Library Adult Education: Gretel Smith

Mustard Family = Brassicaceae = Cruciferae

Rebecca Dolan, Ph.D.

Friesner Herbarium, Butler University

The mustard family comprises 50 genera and 1350 species found everywhere but deserts; in Indiana, ca. 36 genera with 72 species.

Characteristics

Annual, biennial, or perennial herbs with pungent, watery juice. Leaves alternate, simple, often dissected.

Flowers of 4 sepals, 4 petals (arranged in a cross) and 6 stamens (4 long, 2 short), radially symmetrical. Petals often long-clawed; the distinctive cross shape is the origin of the traditional family name *Cruciferae*. Fruit is a silique, an elongated capsule.

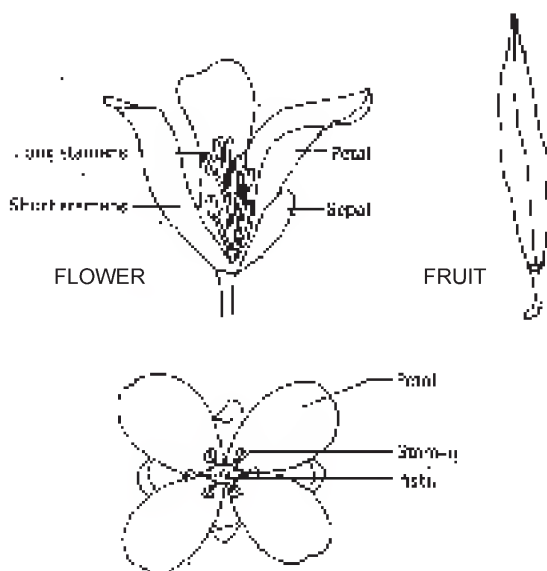
Economic Importance

Food crops: Lots of vegetables are members of the genus *Brassica*: brussels sprouts, broccoli, kohlrabi, cabbage, cauliflower, and kale are all the same species, *Brassica oleracea*, selected for different features of the plant; *Brassica campestris* gives us turnips and Chinese cabbage; other *Brassic*as give us mustard greens, horseradish, radish, and mustard seed.

Ornamentals: Honesty, candytuft, alyssum, money plant, dame's rocket.

Troublesome weeds: Garlic mustard and other weedy mustards, shepherd's purse, peppergrass, dame's rocket.

Plant products: Canola oil, mustard.



Watanabe Gardens

Dan Anderson

When the Indiana State Museum relocated to White River Park in 2001, museum management desired the setting to be representative of our state and in keeping with the landscaping of the other facilities in the park. To design such a setting, they chose the firm Ratio Architects of Indianapolis.

Ratio's inspiration was an old limestone quarry. The serpentine walk, representing a river bed, is made from Indiana limestone, and along the sides are stone benches and decorative blocks of the same material. Plants chosen for the upper end of the walk, near the front of the museum, are characteristic of higher altitudes and cooler climates. Those at the lower end, facing the canal, represent plants found in the lower, warmer parts of the quarry or in southern Indiana. The family of Dr. August "Gus" Watanabe, M.D., former vice president of Eli Lilly and Company, made a generous donation to the project which was matched by Lilly, so it is fitting that the gardens bear the Watanabe name.

Ratio's plans called for the purchase of 20,000 plants and 60 trees, all species native to Indiana. In the main garden, plantings are formal, with each species located in a specific area, roughly circular. Two satellite areas are more informal, comprising a scattering of species without any observable order.

Maintenance of the gardens was set up as a project for Marion County Master Gardeners by Debbie Specht, Manager of Volunteer Services, ISM, and was initially directed by Master Gardener Charlotte Carmichael. Several INPAWS members, who are also Master Gardeners, participated. In the fall of 2003, Dan and

Common Spring-Blooming Brassicas

Bitter wintercress—*Barbarea vulgaris**
 Black mustard—*Brassica nigra**
 Cut-leaved toothwort—*Cardamine concatenata*
 Garlic mustard—*Alliaria petiolata**
 Pepper grass—*Lepidium virginicum*
 Purple rocket—*Isodanthus pinnatifidus*
 Purple springcress—*Cardamine douglasii*
 Shepherd's purse—*Capsella bursa-pastoris**
 White springcress—*Cardamine bulbosa*
 Yellow cress—*Rorippa palustris**

*Introduced; many of the mustard family are non-native.



Sophia Anderson started a project to collect and package seeds from the garden for sale in the Museum Shop, and the seed project was continued in 2004.

The soil in the Watanabe Gardens has not been excavated to the extent of those at Holliday Park and the Butler Prairie, so the use of many deeply rooted prairie species has been avoided. Other than prairie dropseed (*Sporobolus heterolepsis*) and a couple of sedges (*Carex* sp.), grass-like plants are absent. The collection has virtually no spring-flowering plants. The peak season of bloom is from mid-July to the end of August, with some of the asters retaining color until frost. Seed collection begins in mid-September and lasts until the end of October.

Several desirable “hitchhikers” have appeared along with the designated plants, including swamp milkweed (*Asclepias incarnata*), great blue lobelia (*Lobelia siphilitica*), dogbane (*Apocynum cannabinum*), and Culver’s root (*Veronicastrum virginicum*). Scattered plants of these species will be brought together in available waste areas and added to where necessary. In addition, we plan to introduce Queen-of-the-prairie (*Filipendula rubra*), ironweed (*Vernonia* sp.), and Joe-Pye weed (*Eupatorium* sp.) The latter was supposedly included in the garden plantings, but I have found none in the last two years. Nor have I seen blue false indigo, also in the plan; white false indigo may have been substituted. If any of you have four or five *Filipendulas* you would care to donate, please let me know.

Weed control has been the major effort of our volunteer maintenance crew. The first spring, clover, lawn grasses, ground ivy, and knotweed were the most common weeds. Fast-growing willows and yellow sweet clover (*Melilotus officinalis*), with their extensive root systems, were difficult to dig. Later, in 2003, there was a plague of horsetweed (*Erigeron canadensis*). Last year, the main culprits were daisy fleabane (*Erigeron annuus*) and the small white asters, which seemed to think the entire garden area was theirs.

I invite all INPAWS members to see these award-winning gardens (see Field Notes, page 14). Those who wish to adorn their home gardens with some of these beautiful Indiana native plants may pick up one or several reasonably priced seed packets at the Museum Shop.

If anyone has some spare time, **volunteer gardeners are always welcome** and receive a wide range of benefits. For details, please contact me or call Debbie Specht, Indiana State Museum, at 317.232.8351.

What to See

Aster cardifolius—heart-leaved blue wood aster

Aster ericoides—heath aster

Aster lateriflorus—side-flowering aster

Aster novae-angliae—New England aster

Allium cernuum—nodding wild onion

Asclepias tuberosa—butterfly weed

Baptisia leucantha—white false indigo

Ceanothus americanus—New Jersey tea

Coreopsis palmata—plains coreopsis

Echinacea purpurea—purple coneflower

Ratibida pinnata—yellow coneflower

Heliopsis helianthoides—false sunflower

Lobelia cardinalis—cardinal flower

Liatris spicata—dense blazing-star

Petalostemum purpureum—purple prairie-clover

Pycnothemum virginianum—mountain mint

Rudbeckia fulgida speciosa—showy black-eyed Susan

Rudbeckia subtomentosa—sweet black-eyed Susan

Solidago nemoralis—gray goldenrod

Solidago speciosa—showy goldenrod

Silene regia—royal catchfly

Most, if not all, the plants and trees at the Watanabe Gardens have identifying plaques. The gardens can be accessed without entering the museum.

Editor’s Note: One satellite “wild” area of the Watanabe Gardens, near the entrance to the underground garage, was the subject of considerable brouhaha last summer when the intent was announced to convert it to turf grass. Current plans are to maintain the area as a naturalistic planting.

STATE FLOWER PROJECT

Firepink Not in the Running

Lynn Jenkins and Jo Ellen Meyers Sharp conducted surveys among attendees at the Indiana Flower & Patio Show in March to find out their choice for the Indiana state flower.

A list of six garden-worthy native plants in Indiana and the Midwest make up the ballot:

Purple coneflower—*Echinacea purpurea*

False sunflower—*Heliopsis helanthisoides*

White trillium—*Trillium grandiflorum*

Coral bell—*Heuchera americana*

Columbine—*Aquilegia canadensis*

Gayfeather—*Liatris spicata*

The recent *American Gardener* article about native plants was incorrect about firepink being the selection. Firepink (*Silene virginica*) is not on the list because INPAWS wants to engage members of the public in this effort with garden-worthy natives they may be familiar with and those available in garden centers or mail-order catalogs.

The ballot and photos of the plants will be posted soon on the INPAWS website so that anyone in the state can vote. Ballots also will be distributed at various garden-related events over the next several months.

Votes will be tallied later this summer. Then, work will begin with legislators to get a bill written and other steps taken to present it to the 2006 Indiana General Assembly.

Jenkins and Sharp are asking you and members of other garden-related groups to:

- **Talk about the state flower initiative in your community.**
- **Ask the public to vote on the ballot.**
- **Forward the names of legislators you know are interested in gardening or may have a sympathetic ear to the cause.**

Contacts: Jenkins, ljenks@tds.net, or Sharp, hoosiergardener@earthlink.net

INPAWS SMALL GRANTS PROGRAM

2004 Winners Give Native Plants High Visibility

The INPAWS Small Grants & Awards Committee received 10 proposals for review in September 2004, so there was a lot of competition! Two grants were made:

• **\$300 to Friends of the Sands (Gus Nyberg)** to purchase native plants for their project "Native Plant Landscaping at Newton County Fairgrounds." This is a demonstration/education garden to increase the public's awareness and appreciation of the plants that are part of this Newton County black soil prairie ecosystem.

• **\$500 to the Indianapolis Zoo (Lori Johnson Roedell)** for 13 species of native trees and shrubs to be planted in a 12-acre area at Fort Harrison State Park, Marion County, for their "Project Indiana Habitat."

Both projects are in areas of high visibility, providing native plant education—and inspiration—to a large number of people.

Five proposals were submitted by the March 1 deadline for 2005 grants. The committee expects to complete its review by mid-April.

INASLA INPAWS AWARD

Watanabe Gardens Honored

As part of its annual professional awards program, the Indiana chapter of the American Society of Landscape Architects (INASLA) submitted two candidates in the INPAWS category—works that prominently feature plants native to Indiana.

The INPAWS Small Grants & Awards Committee selected the "Indiana State Museum Eastside Gardens" (later named the Watanabe Family Gardens) for the October 2004 award. John Jackson managed the project for Ratio Architects. The Watanabe Gardens were also recognized for civic beautification in Keep Indianapolis Beautiful's 2004 Monumental Award Awards.

Besides creatively incorporating native plants into the ISM landscaping, these gardens show the public two different approaches to native plantings by working into the design a manicured, geometric look as well as an open, wild look.

Letter to the Editor

Responding to Bob Minarik's letter about proposed drilling in the Arctic National Wildlife Refuge, Rosemary Ervin writes:

[Minarik] says "If we as a nation can be independent of foreign oil, I fully support oil exploration in the Arctic." I have never heard or read any expectations that ANWR would even come close to giving us independence from foreign oil. The U.S. Geological survey estimates that at peak production (1 to 1.3 million barrels/day), only about 10 percent of our current demand would come from ANWR and only for 20 or 30 years. Better we should decrease our demand for oil and speed development of alternative fuel sources.

Saturdays with CILTI

Central Indiana Land Trust Saturday projects are a fun way to enjoy a little piece of nature. Please RSVP for all projects at 317.631.5263 or msteiner@cilti.org. CILTI will follow up with directions and other necessary information.

April 9, 9:00 am, **Sutton/Amos Butler Audubon Rookery, Johnson County**—Tree planting and a rare chance to see the area's largest Blue Heron Rookery from a safe distance.

April 16, 9:00 am, **Blue Bluff Nature Preserve/Shalom Woods, Morgan County**—Removal of invasive plants, litter abatement.

April 23, 9:00 am, **Burr Oak Bend Preserve, Hamilton County**—Removal of invasive plants, litter abatement, possible tree planting.

April 30, 9:00 am, **Hemlock Ridge Nature Preserve, Putnam County**—Trail maintenance, sign installation

May 1, **Hemlock Ridge Nature Preserve**—Dedication ceremonies; visit www.cilti.org for details.

May 7, 9:00 am, **Glick Preserve, Marion County**—Removal of invasive plants, litter abatement.

May 14, 9:00 am, **Hajji Hollow Preserve, Parke County**—Removal of invasive plants, litter abatement.

May 21, 9:00 am, **Pioneer Cemeteries, Henry County**—Trimming and clean-up.

May 28, 9:00 am, **Burnett Woods Nature Preserve, Hendricks County**—Removal of invasive plants, litter abatement, fence maintenance.

Spring Wildflower Hike

April 16 (Saturday), Shades State Park. "Spring Wildflowers of the Entrenched Valley; Where the Past Meets the Present" is the title of this rugged hike through Shades State Park. Naturalist Mike Mycroft will explore the ecology and history of a unique natural area of Indiana using spring wildflowers as a guide. Gain practice identifying spring ephemerals while learning how to use wildflowers as habitat indicators and as tellers of historic tales. Meet at the Dell Shelter at 10 am and plan to hike for about 2 hours. Hike is free and open to the public after paying the standard gate fee: Indiana residents \$4/car, non-residents \$5/car. Call 765-597-2654 for more information.

20th Annual Wildflower Foray

April 22–24 (Friday–Sunday), South-Central Indiana. This celebration of Indiana's natural history and early signs of spring offers traditional bird and wildflower walks as well as hikes featuring wetlands, fungi, nature photography, and history. Hikes and programs are held at various locations in Brown and Monroe Counties.

Leaders represent the Department of Natural Resources, Hoosier National Forest, Monroe County Parks & Recreation, The Nature Conservancy, Indiana University, and other organizations.

The Saturday evening Foray Review includes an overview of concerns and projects, a summary of the wildflower census, and a look at an exciting new endeavor by The Nature Conservancy.

All programs and hikes are free, but some DNR properties charge a gate fee. Pre-registration is required for some of the hikes. For information on hikes other than those on the National Forest, call T.C. Steele State Historic Site at 812.988.2785.

Sycamore Benefit Gardening & Landscaping Show

April 16 (Saturday), 9:00 am to 4:00 pm, Bloomington Convention Center, 3rd and South College, Bloomington.

This sixth annual one-day show includes gardening and landscaping vendors and environmental groups eager to share their knowledge. The South Central Chapter of INPAWS will have a table. Contact Cathy Meyer to volunteer, cmeyer@co.monroe.in.us.

Bring kids to the Children's Corner where fun activities go on all day. Regular admission is \$6; free to children age 12 and under. Proceeds benefit the Sycamore Land Trust, which preserves natural landscapes for today and the future in south central Indiana.

For more information about the show visit www.sycamorelandtrust.org or contact Betsy Whitehead at 812.339.1782 or betdon@earthlink.net.

Special Offer: NATIVE PLANTS Magazine

As an INPAWS member, you can receive the only magazine of its kind in North America at a special rate—25 percent off the regular price!

For just \$15 you will receive a year's worth (four issues) of *Native Plants* magazine, published by the Lady Bird Johnson Wildflower Center. A winner of national awards, this ad-free magazine explores native plant conservation, restoration, and use. Thought-provoking editorials and gorgeous four-color nature photography examine issues of regional interest and national significance.

Browse the current and previous issues at www.wildflower.org. To sign up online, click Read Our Magazine, then Subscribe, then Special Offer.

Ready or Not. . .

Wendy Ford

Here comes my very first issue of INPAWS JOURNAL!

When INPAWS President Becky Dolan asked me to take on its editorship, I thought no problem, I should be able to fit it into a weekend once every three months. With my years of freelance writing and publishing experience, I should have known better.

I am humbled by what has proven a considerably more complex but engaging process. My hat's off to Anne Wilson who has laid out the newsletter from the beginning. I hope my efforts live up to the high standard set by her elegant layouts. Kudos also to past editors Bobbi Diehl, Carolyn Harstad, Dan Anderson, and Chris Carlson for consistently giving us articles of high quality and interest.

You may wonder about the newsletter's name change. Becky encouraged me to develop my own look for the newsletter, and the move to a briefer title came as this designer's desperate attempt to avoid stating the entire name of our distinguished society in the masthead.

I chose "journal" because, to me, it connotes both the personal reflections that gardeners jot in their notebooks and the observations that naturalists log in the field. It also signals that we do more than report news—we convey a body of knowledge and experience, whether penned by professional experts or amateur enthusiasts.

Having survived trial by fire with this first issue, I would now like to issue a challenge.

I invite each of you to help me make INPAWS JOURNAL reflect your needs and wants, your joys and frustrations, and your own encounters with Indiana's natural heritage. I'm not sure what form this will take, but I would like to initiate the conversation. You needn't write a full article—a paragraph or two or even rough notes would be welcome.

Here are some ideas to get you started: What would you like to learn more about? What wonderful place have you discovered that you'd like to share with fellow members? Do you

have practical advice for those of us trying to grow our own natives? Are you looking for seeds or giving them away? What was in bloom when you visited a specific nature preserve? Can you top Dan Anderson's garlic mustard lasagna recipe? What preservation and conservation projects have you been working on? What lessons have you learned?

With your input, these pages will speak with a more personal voice to all the membership.

When would I like your submissions? Any time I can get them. My contact information and deadlines for the quarterly issues are found on page 2 of this issue.

I thank Becky and the INPAWS Council for entrusting the INPAWS JOURNAL to me, and I look forward to hearing from many new voices in the coming months.



INDIANA NATIVE PLANT
and Wildflower Society

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Wipe Your Feet!

Ellen Jacquart, Indiana Chapter
The Nature Conservancy

Most of you are aware of what invasive species are doing to natural areas around Indiana. Many of you are actively fighting back in various ways from pulling garlic mustard to planting only non-invasive plants in your garden.

Want to know one more very simple thing you can do to help? Wipe your feet!

Invasive plants move around in many ways—fruits that are carried away by birds, seeds that catch on animals' fur,

seeds designed to be spread by wind or water. Some of our invasive plants, though, are moved primarily by—you.

Invasive plants that have small seeds—like garlic mustard, Japanese stilt grass, dame's rocket, and even purple loosestrife—can be picked up and carried in boot treads, bike or car tires, and horse hooves. It is no secret that the first places we find invasives like these are by parking lots and trail heads. From there, the invasives use unwitting visitors to move their progeny further and further into the area.

To make sure you are not spreading these species, use a stiff brush to get the dirt off your boots before hiking in a natural area. Preferably, do this brushing in an area nowhere near the natural area, but if you're going to brush your boots at the site, try to do it over a parking lot where plants have less chance of establishing. Anything that sprouts around the parking lot will be seen and removed by the natural area manager before it can spread.

To help visitors remember to brush their boots, this summer about 30 "Wipe Your Feet!" boot brush stations will be put in at trailheads on Indiana preserves owned by The



Boot brush stations will be installed at trailheads and preserves. Photo by John Exo, University of Wisconsin Extension.

Nature Conservancy, Department of Natural Resources, U.S. Forest Service, Central Indiana Land Trust, and Sycamore Land Trust. These stations, partially funded by the IPALCO Golden Eagle Grant program, will feature a sign with information on invasive species in Indiana. A boot brush mounted at the base will make it easy for you to "wipe your feet" while you read.

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INDIANA NATIVE PLANT and Wildflower Society

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INPAWS JOURNAL is published quarterly for members of the Indiana Native Plant and Wildflower Society. Material may be reprinted with the permission of the editor.

All are invited to submit articles, news items, and event postings of interest to our membership. Acceptance for publication is at the discretion of the editor. INPAWS welcomes opposing viewpoints.

Please submit text and photos via e-mail to wwford@comcast.net or via land mail to INPAWS JOURNAL, 6911 Cabernet Way, Indianapolis IN 46278. Submission deadlines for specific issues are as follows:

Spring
February 23 for April 1 mailing

Summer
May 23 for July 1 mailing

Autumn
August 23 for October 1 mailing

Winter
November 23 for January 1 mailing

INPAWS Mission

To promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity, and environmental importance of indigenous vegetation.

Membership

INPAWS is a not-for-profit 501(c)(3) organization open to the public. For membership information, visit www.inpaws.org.

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Worth Celebrating

Rebecca Dolan

I want to thank INPAWS Plant Sale and Auction co-chairs Karen Hartlep and Julie Beihold for two years of great service. Along with almost 40 volunteers, they organized our most successful plant sale yet! The annual spring event is a great learning experience for native plant lovers, beginners through experts, and the funds raised help support all of our projects.

We are looking for new plant sale chairs for next year, and a new location. We need a large room with a floor that can get dirty, easy car access for plant dropoff and pickup, a hall where buyers can queue up before the sale, and, ideally, a stage for the auction and access to a kitchen for snacks. We can pay a rental fee. Please contact me if you know of such a place or if you can volunteer to co-chair the event.

This has been a year of collaboration. INPAWS was part of the Indiana Conservation Alliance (INCA), formed as an umbrella group of like-minded organizations broadly interested in conservation legislation in the state. INCA organized Conservation Day at the Statehouse this winter. Many INPAWS members attended and learned how to talk effectively with legislators about issues of concern. Two programs supported by the group passed into law: funding for the Indiana Heritage Trust to buy land for preservation, and Clean Water Indiana. The Heritage Trust will receive \$1 million a year for the next two years, and the Clean Water effort around \$3.6 million per year. These dollars are considered significant given this year's budget constraints.

INPAWS is also part of the new Comprehensive Wildlife Strategy being initiated by the state, an effort to keep wildlife from becoming endangered. As Conservation Partners, we will be asked to comment on habitat conservation efforts undertaken by state agencies. To learn more about the initiative, visit <http://www.djcase.com/incws>.

I hope you can join in some of our upcoming INPAWS programs. Thank you to Lynn Dennis and Ruth Ann Ingraham for planning this summer's events. Also, a big thank you to Wendy Ford for the great updated look for the INPAWS Journal.

Cheers, Rebecca

Indiana Heritage Trust

The Indiana Heritage Trust was established in 1992 to preserve and enhance Indiana's rich natural heritage for present and succeeding generations.

Indiana has lost thousands of acres of its original plant and animal habitat. In 1800, about 87% of our state was covered with hardwood forests. Today, less than 20% of Indiana is forested. More than 86% of our original wetlands have been lost.

Many natural plant communities have nearly disappeared. More than 400 plant species are listed as either rare, threatened, or endangered. Some 31 species of animals are extinct in Indiana and 172 are rare, threatened, or endangered. At least 85% of Indiana's known archaeological sites have been destroyed or damaged by agricultural activities, mining, construction or vandalism.

The Indiana Heritage Trust acquires state interest in real properties that (1) are examples of outstanding natural resources and habitats, (2) have historical or archaeological significance, or (3) provide areas for conservation, recreation, protection, or restoration of native biological diversity. Properties are acquired only from willing sellers, never through the power of eminent domain.

With the help of INPAWS and other partners, the Indiana Heritage Trust was granted some funding from the Indiana legislature. The remaining funds come from partner organizations and the sale of Environmental License Plates.

Please do your part. Buy an Environmental License Plate, and urge others to do so.

As an individual citizen, you can initiate the process to see more land in your county preserved for the future. Visit <http://www.in.gov/dnr/heritage/apply.html> to download an application for Indiana Heritage Trust funding.

Adapted from the Indiana DNR website.

Sassafras albidum (Nutt.) Nees.

The Mitten Tree

Marion T. Jackson, Ph.D.
Professor of Ecology
Saint Mary-of-the-Woods College

My woodshop fills with the spicy aroma of sassafras as tawny shavings curl up and away from my antique wooden hand plane.

Only a skilled woodsmith will be able to distinguish my rich-grained work piece from golden oak, once it is fitted into the picture frame I am making. Beautiful, easily worked, and relatively inexpensive, sassafras lumber is gaining wide popularity among wood crafters.

What an ancient and versatile tree is the sassafras! Ancestors of the modern sassafras shared the warm-wet forests of the Tertiary geological period with early redwoods, tulip-trees, magnolias, and sweet gums. Today only three species of sassafras survive in the world, one in central mainland China, one in Taiwan, and ours, which ranges widely over the eastern United States. Locked within our species are secrets gleaned during its 60 million year history, before the early French settlers applied their version of the euphonious name by which aboriginal Americans called the tree.

Best known of its uses is the refreshing tea which derives its flavor from the safrole which is steeped from the fresh bark of large roots. As soon as frost left the ground in late February or early March, my father always grubbed out several dark red roots to flavor the ruddy brew we used as a spring tonic to thin the blood "so we would be in shape for spring farm work." Our pioneer ancestors recognized both red and white varieties of sassafras, and believed that roots from red sassafras (variety *molle* from the pubescent leaves) made the best tea. We sipped the spicy tea as we

sat around the wood stove on blustery evenings of late winter, unaware that one day someone would find it contained a possible carcinogen. Most likely we would not have stopped drinking it had we known.



Courtesy of Ohio DNR.

Sassafras belongs to the Lauraceae, the aromatic laurel family of higher plants. One of its cousins produces the avocado; another yields cinnamon and camphor. Spicebush, with its glossy green leaves and scarlet berries, is a common shrub in mesic Indiana woodlands and was once used as a substitute for allspice. Dried sassafras leaves are the file used in the southern dish file gumbo. Oil of sassafras, once an ingredient in patent medicines, is still used in the preparation of certain soaps, perfumes, and cosmetics. A Mediterranean cousin, *Laurus nobilis*, is the source of culinary bay leaves as well as the leafy laurel branches once woven into garlands to crown successful poets and athletes in ancient Greece and Rome.

Although "resting on one's laurels" is not a good practice, a slender sassafras pole makes a near-ideal walking staff. Its springiness, light weight, and durability—the qualities which also made it a much-used wood by American pioneers—will improve your footing in rough terrain for years. Easily riven with a hickory-handled froe and an ironwood beetle, young trees were once a favorite for shingles, slats, and fence pickets. Its durability in contact with soil and the ease with which it is split were properties sought for use in fence posts and rails. The pioneers boasted that well-seasoned sassafras posts would outlast three post holes!

Coopers hand-shaved sassafras staves for making wooden water pails and kegs. Hay frames for wooden-wheeled farm wagons on horse-powered farms were often made of sassafras lumber because of its strength and its light weight for ease in exchanging wagon beds. The best booming pole, to anchor fast the loose hay, wheat bundles, or corn fodder during hauling, was also made from a seasoned sassafras sapling.

Little need to plant a sassafras tree, even though its cinnamon-tinged bark, lemon-colored pom pom flowers, varied leaves, and showy fruits make it a lovely ornamental. In fact, farmers consider it a "weed" tree. Throughout the tree's native range, during autumn song birds plant, in every fencerow and untended field border, the glossy purple fruits which they eagerly pluck from the tree's bright vermilion egg-cup receptacles. If left alone, the seedlings will soon sprout into large colonies, which become blazing burnt orange copses in later autumn. Individual seedlings, however, usually

Please help us find This one!

Black swallow-wort (*Vincetoxicum nigrum*, syn. *Cynanchum nigrum*)

are transplanted with difficulty; since their root development is sparse, survival rates are low.

Sassafras typically does not grow to great size, although some very large specimens are on record. Charles Deam had a photograph in his *Trees of Indiana* of a man standing inside a hollow stump of a Jennings County specimen. In life that tree must well have exceeded four feet in diameter because it still measured 48 inches dbh nearly 50 years after it was cut in 1866. A fine old tree that I measured in Versailles State Park in 1967 was 29 inches in diameter and had a clear bole of 44 feet. Some forest-grown individuals in the old-growth section of Hoot Woods in Owen County were about 24 inches dbh, with clear boles of 50 to 60 feet. Since sassafras is intolerant of deep shade, these trees undoubtedly began growth in canopy openings decades earlier.

The varied leaf shapes are the tree's trademark—in fact, its Latin name was once *Sassafras variifolium*. How does the tree “know” when and how to make a simple oval leaf form, a single left-handed or right-handed mitten or the curious double mitten? And what selective advantage does variation in leaf shape convey to the sassafras? I am not sure any botanist has ever answered those questions completely. Perhaps some mysteries of nature should remain mysteries.

Have you seen this invasive plant? Black swallow-wort is known from only two places in Indiana—a backyard in Indianapolis and at Hayes Arboretum near Richmond. However, it was introduced to North America from southwest Europe around 1900 as an ornamental, so there are likely other plantings out there in Indiana.

Why are we watching for black swallow-wort? In the east it has become an aggressive invader, primarily on roadsides and disturbed sites, but also moving into forestlands and prairies. The vine crawls over other vegetation, forming a dense, impenetrable thicket (another common name for the species is “dog strangling vine”). A University of Rhode Island student, Jennifer Dacey, found that monarch butterflies will lay eggs on this member of the milkweed family but that all the larvae die because swallow-wort has a different toxicology than members of the genus *Asclepias*. Once established, this species is very difficult to kill, so we want to nip this one in the bud.

What to look for:

Black swallow-wort is an herbaceous, perennial vine in the milkweed family. It has dark, glossy-green, simple leaves with a rounded to slightly heart-shaped base, smooth edges, tapered point, and very short petioles.

The deep purple flowers are small (1/8-inch across), borne in clusters at leaf axils, and have triangular petals with short white hairs. It blooms from May to August. The fruit typically grows in pairs and resembles slender milkweed pods. Like that of native milkweeds, the seed is winged and readily spread by the wind.

Black swallow-wort may be confused with a common native vining plant often found in disturbed areas, called



Leaf and pod photos by Peter M. Dziuk, Minnesota Department of Agriculture; flower photo by Charlotte Pyle, USDA.

sandvine (*Cynanchum laeve*). Sandvine, however, has small white flowers and deeply heart-shaped leaf bases.

What to do if you find it:

Report any finds to Becky Dolan at rdolan@butler.edu. To assure identification, a good photo of the plant and the flowers (preferably showing the hairs) is necessary. For more information and photos, see the INPAWS website at www.inpaws.org.



INPAWS Sponsored Programs

Coming Up

July 17 (Sunday)—Talk and hike at **Brown County State Park**. Jim Eagleman will discuss the recovery of flora in the park after years of deer culling. Meet at 1:00 pm at the Nature Center.

August 27 (Saturday)—Tour of **Cressmoor Prairie**, Lake County, owned by the Shirley Heinze Land Trust. Led by "Plant Detective" Barbara Plampin. Meet at 8:30 am (local time). See article on this page.

September 9–11 (Friday–Sunday)—Bus trip to **Missouri Botanical Garden**. Join fellow plant lovers on a weekend bus trip to St. Louis, where Kay and George Yatskievych will guide us through the display gardens and research facilities of the world-renowned Missouri Botanical Gardens. Sunday we will visit the 2,400-acre Shaw Nature Reserve, home to tall grass prairie, forests and glades, woodlands, and wetlands. Watch for a mailing with a tear-off reservation form. For more information, visit www.mobot.org or contact trip coordinator Ruth Ann Ingraham at 317-253-3863 or rai38@aol.com.

Down the Road

October 22 (Saturday)—Mosses and lichens at **Plaster Creek Seep**, Martin County. Hike led by Bill McKnight and Harold Allison.

November 5 (Saturday)—**INPAWS Annual Meeting**.

For further details visit www.inpaws.org or contact Lynn Dennis at 317-951-8818 or ldennis@tnc.org.

A JEWEL IN LAKE COUNTY

Cressmoor Prairie

Warren Buckler

What's perhaps most remarkable about Cressmoor Prairie in Hobart, Indiana, is that it exists at all. Against all odds, this once forgotten piece of land continues to offer visitors a view of northwest Indiana's landscape much as it did when white settlers arrived in the early 1800s.

Virtually all Indiana's black soil prairie, of which Cressmoor is a prime example, has been converted to agricultural use or, more recently, consumed or degraded by industrial and subdivision development. Had Cressmoor's previous owners not left it alone, and had it not been "discovered" by a knowledgeable passerby, the 38-acre site likely would have fallen into the hands of commercial or residential real estate interests.

Happily, fate intervened. In 1988, a plant enthusiast and school teacher from Bremen, Indiana, named Keith Board just happened to be driving by when he caught sight of a compass plant flower stalk. Knowing that the plant usually doesn't occur far from a true prairie, he investigated and, indeed, soon found himself "in the middle of a beautiful prairie." His findings were a revelation even to some local conservationists.

The privately endowed Shirley Heinze Environmental Fund—a Chicago Wilderness organization that buys, protects, and restores significant natural areas in Indiana's three lakefront counties—negotiated the purchase of the land with state backing and continues to own and manage it. Cressmoor was designated an Indiana Nature Preserve in 1996. (For more information about the Heinze Fund, call 219-879-4725.)

The Cressmoor preserve is bordered by a golf course, an apartment complex, a railroad track, and a busy road. New houses are going up across the street, and downtown Hobart (often pronounced HO-bert) is about a mile away. Indeed, the proximity of homes, highways, and manufacturing plants typically adds to the challenges of maintaining high-quality natural areas in urbanized northwest Indiana.

But a short walk along the trail that leads from the small parking area off Lake Park Avenue allows visitors to leave most of the man-made world behind. And deep into the prairie visitors can find vistas that convey a powerful sense of the plant and animal communities that prevailed in this region centuries ago.

In a leisurely one- to two-hour hike (the mowed trail is about two miles long), beginning botanists can test their skill at recognizing some of the 184 native plant species identified so far at Cressmoor. Veteran plant hunters should be on the lookout for purple milkweed, prairie lily,



Compass plant. Courtesy of Butler University Friesner Herbarium.

ragged and green-fringed orchids, prairie sundrops, and the imposing and intriguingly named rattlesnake master. Much of the preserve is typical of pure prairie habitat, with large stands of big and little bluestem, Indian and other grasses interspersed with a wide variety of flowering plants. Cressmoor also has some savanna and low-lying wet areas. Amethyst aster was recently found in the savanna, making its first known appearance in Lake County, Indiana. American hazelnut is abundant in the transitional zone between Cressmoor's savanna and prairie.

The prairie wildflowers, including six types of goldenrod and blue and white varieties of aster, reach their peak in late summer and fall. But midsummer, when coreopsis, sunflowers, blazing star, ironweed, gray-headed cone-flower, and eight species of milkweed are in bloom, is nearly as rewarding. Birds, butterflies, and small mammals and reptiles abound. Five rare remnant-dependent insects—leaf hoppers, a skipper and a butterfly—have been found in areas of Cressmoor with a history of fire.

About a third of the prairie is burned each year, explains Jan Hunter, (former) stewardship program manager (Paul Quinlan now fills this role), restoring a natural cycle that was interrupted by settlers' fire suppression efforts. The prescribed burns remove layers of dead leaves and grass, return nutrients to the soil, help with seed germination, and discourage large woody plants.

No less important is the effort to promote respect and understanding for the preserve among nearby residents, some of whom in times past may have regarded the land as a convenient dumping ground, play area, or a place to ride off-road vehicles. Vandalism remains an occasional problem. But the larger Hobart community has been supportive, and busloads of visiting students down to kindergarten age are helping to turn the prairie into an outdoor learning laboratory. Cressmoor is becoming a community asset, a living example of one of Indiana's rarest ecosystems, and one of a few sizable remnants left in the state.

Reprinted with permission from Chicago WILDERNESS Magazine, www.chicagowildernessmag.org. For information about nearby attractions, eateries, and places to overnight, see the full article in the archived online Fall 2001 issue.

TOUR CRESSMOOR WITH INPAWS SATURDAY, AUGUST 27

Cressmoor Prairie is the largest protected example of a silt-loam or "black soil" prairie in Indiana—the prairie that Native Americans knew, thousands of years after the Ice Age. Black soil prairies were once the most common prairies in Indiana, but their rich, fertile soil was among the finest agricultural ground anywhere in the world, so most were plowed under for farming. Only about 300 acres of black soil prairie remain in Indiana today. Cressmoor Prairie is one of only three remnant areas.

DIRECTIONS

Cressmoor Prairie is on Lake Park Avenue in Hobart, Indiana. From the intersection of I-65 and Business US 6 (Exit #258; also called Ridge Rd.), go east on Ridge Rd. about 2.5 mi. Turn south (right) on Lake Park Ave., and go about 0.5 mi. to the parking lot on the west side of the road.

Saving The Big Woods

Early settlers called Indiana's forests endless, vast, unbroken, and a limitless resource. Today there are few places where people can use such words to describe forestland. But when you drive State Road 46 from Columbus to Bloomington or State Road 135 from Brownstown to Beanblossom, you can still get a sense of what settlers saw. This area is the largest contiguous block of forestland in Indiana, but history has taught us that it is far from endless or limitless.

The Nature Conservancy's Brown County Hills Project is a community-based conservation project trying to protect the most heavily forested portions of the Brown County Hills Section (see map). The goal is to keep as much contiguous forest on the land as possible for the benefit of all the plants, animals and natural communities that constitute this forest system. But to protect it we must first understand what forces threaten the Big Woods. Through a science-based planning process the Project identified nearly 20 human-influenced factors that stress the Brown County Hills ecology—then ranked them by the severity of damage and the scope or extent of damage each could cause to the natural area. Here are three of the most serious threats to the forest system.

Changes to Natural Fire Patterns—For hundreds of years, natural fires and fires started by Native Americans were regular occurrences in Indiana. In the pre-settlement Big Woods, low creeping ground fires burned through parts of the forest floor every year. Occasionally this low-

intensity, human-caused fire would become a major fire (perhaps coinciding with severe drought or large amounts of dead wood due to ice or wind storms), killing mature trees and clearing large areas, allowing the oak-hickory forest type to persist on the landscape.

With European settlement, this natural cycle of fire and regeneration was broken. The forests were cleared using fire, ax, and ox and kept open for agriculture. When much agricultural land was abandoned in the early 20th century, the oaks and hickories again took over. Since then, we've suppressed fires to protect human life and property. But, without periodic fires, our forests are slowly changing from the oak-hickory dominated forests typically found in this area to a beech-maple dominated system. Although this shift in species composition is natural, the lack of disturbance is not. If a beech-maple forest dominates this area, many understory species are shaded out, and many sources of food and shelter for birds and animals disappear. The result is a less diverse forest system.

Excessive Deer Population—White-tailed deer are native to Indiana and play an important role in the forest system. But today's deer overpopulation is a direct result of human actions. We have fragmented the forest, creating more edges. We have planted row crops, which help to inflate the deer population, at the same time that we have removed all the natural predators. Hunting, once commonplace and a means of subsistence, is now restricted on more and more land. Restriction of hunting creates local-



The Nature Conservancy's Brown County Hills Project

ized overpopulation that stresses vegetation and creates browse problems for neighboring landowners as well.

Deer populations are now high enough to seriously degrade the herbaceous and shrub layer of the forest. As the understory is thinned and weakened by deer browsing, opportunistic alien plants such as the invasive garlic mustard are able to spread rapidly and crowd out native species. In some areas the population is high enough that deer browsing is changing the future overstory of the forest, reducing and limiting regeneration of young trees.

Fragmentation and Parcelization—Habitat becomes fragmented when the continuous forest is broken up into smaller sections. Fragmentation creates gaps in the forest which allow alien species more places to take hold. Gaps also create smaller habitat islands, resulting in less available habitat for forest interior species. Parcelization of the forest is the shift from a few large landowners to more and more smaller owners. Parcelization reduces the size of management areas, making it harder to implement management activities that mimic natural disturbance patterns.

These stresses and many others are serious threats to the Big Woods. Given time, they will degrade this forest system and lead to a loss of biodiversity. This forest system has already survived near destruction once. Although the change occurring now is more subtle, it is far more permanent—but we can choose otherwise!

The Nature Conservancy is using strategies such as conservation easements, land acquisition, private land conservation programs, and educational programs to help combat each of these threats and help protect the last great forest in Indiana. The Nature Conservancy cannot do this on its own. The success of this project depends on the collaboration of public land managers, local land trusts, private landowners, local conservation organizations, and people all over Indiana who care about native plants, biodiversity, and healthy forests. Time will tell, but the hope is that this forest system will continue to function for the benefit of all the plants, animals, and natural communities that represent the diversity of life in the Big Woods.



Yellow timber rattlesnake.



COME SEE THE BIG WOODS!

INPAWS Talk and Hike, July 17, 1:00 pm, Brown County State Park, Nature Center. Jim Eagleman will speak on recovery of native flora after deer culling.

Brown County Hills Project Open House, September 24, 10:00 am–12:30 pm, Yellowwood State Forest, Yellowwood Lake shelter house. Program on raptors of Indiana. Presentations by public land managers. Cookout follows.

Mint Family = Lamiaceae = Labiatae

Worldwide the mint family comprises about 180 genera and 3,500 species centered in the Mediterranean region. Indiana has about 30 genera and 70 species.

Characteristics

Herbs or shrubs with square stems. Leaves simple and opposite or whorled, with aromatic oils. Inflorescence axillary or whorled. Flowers irregular with 5 parts. Fruit of 4 nutlets.

Economic Importance

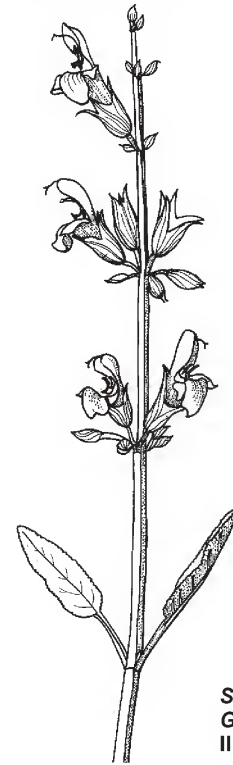
Source of aromatic essential oils, many ornamentals, and important culinary herbs. Garden plants include ajuga (bugle), coleus, catnip, ground ivy, lavender. Herbs include sage, marjoram, thyme, rosemary, basil, oregano, mint, peppermint, spearmint.

Many mints that grow wild in Indiana are introduced. Common mints in Indiana include some non-native noxious field and yard weeds: dead-nettles (*Lamium purpureum*), hen-bit (*Lamium amplexicule*), gill-over-the-ground (*Glechoma hederacea*)

Some Nice Natives

Lyre-leaved sage—*Salvia lyrata*
Mad-dog skullcap—*Scutellaria lateriflora*
Obedient-plant—*Physostegia virginiana*
Bee-balm, wild bergamot—*Monarda fistulosa*
Virginia mountain-mint—*Pycnanthemum virginianum*
Smooth hedge-nettle—*Stachys tenuifolia*
American germander—*Teucrium canadense*
Virginia bugleweed—*Lycopus virginicus*

Rebecca Dolan, Ph.D.
Friesner Herbarium, Butler University



Salvia flower by Janice Glimn Lacy, Botany Illustrated.

GOING PLACES

Virginia B. Fairbanks Art & Nature Park

If you visit the newly expanded Indianapolis Museum of Art (IMA) this summer, take a look at what's going on in the lowland behind the museum.

Underway is an ambitious project that will transform 100 acres of highly disturbed habitat into a place where visitors can enjoy "playful, adventurous, and unexpected encounters with art in nature and nature in art—always changing, always challenging."

The future Virginia B. Fairbanks Art & Nature Park lies between the Water Company Canal and the White River, across the canal from the main IMA grounds. At its center is a 40-acre lake that was once a gravel pit used in the construction of nearby interstate highway I-65. Also visible are remnants of flood plain forest, old agricultural fields, and a wetland.

As part of planning for the site, five years ago Rebecca Dolan, INPAWS

President and Director of the Friesner Herbarium, and Marcia Moore, INPAWS webmaster, both of Butler University, conducted a year-long floristic inventory of the site. Funding was provided by the Indianapolis Department of Parks and Recreation, as the park lies adjacent to the canal tow path, a city Greenway.

Dolan and Moore recorded a total of 187 species, of which sixty-six (36%) were non-native and eleven were considered invasive. They found remnants of historical floodplain forest—sycamore, cottonwood, ash, maple, hackberry, and elm—along with patches of native understory herbs including wild ginger, pale Indian plantain, giant bellflower, squirrel corn, dutchmen's breeches, appendaged and Virginia waterleaf, blue phlox, and bloodroot. This inventory provided base-line information which is now being used to monitor

changes as the IMA develops the park.

Plans for the site include removal of invasive species, especially bush honeysuckle, and restoration of native species.

This summer, Dolan and Moore are undertaking new work funded by the IMA, starting with the installation of permanent transects in the honeysuckle eradication areas. Quantitative vegetation analysis will document the frequency, density, and basal area of all tree species present, along with measurements of the percent cover of herbaceous plants by species. Butler faculty and students will also inventory vertebrate species inhabiting the area.

The future Art & Nature Park will exhibit temporary and permanent artistic creations—sculptures, audio works, films, and photo-based art—that take into consideration the natural and cultural conditions of the site.

For more information, visit www.ima-art.org.

Beauty and the...Turkey?

Barbara E. Plampin, Ph.D.
Shirley Heinze Land Trust

Winter pleasure: choosing slides of purple fringed orchid (*Habenaria* or *Platanthera psycodes*), state rare, for an "Orchids of the Dunes" slide show. Problem: which to omit?

One shows a stately wand of especially deep purple flowers, another shows deeply cut fringe, yet another the long spurs. (Hummingbird clear-wing hawkmoths and long dash skippers extract the nectar.) A fourth

demonstrates the three-part lip's resemblance to a child-fashioned snow angel. There's one in which the topmost blossom readies for flight; after all, *psycodes* can be translated "butterfly." Yet, the parts of the column (fused reproductive organs) can resemble a witch's face or Groucho Marx's moustache.

Homoya says many purple fringed sightings are really of similarly colored phlox, but I managed to mistake the orchid for the phlox. The plant grew near an abandoned house site only ten feet from the road, for Pete's sake. A friend pointed out the truth.

I did better when I sighted a rod of purple near an overturned picnic table in a low, wooded floodplain. However, most of the purple fringed orchids I've seen do live, as Swink and Wilhelm say, "in swampy woodlands where the mosquitoes are the thickest."

About July 26, it's time to don hat, long sleeves, wet pants, and wellingtons to go purple fringed orchid hunting.

Though the orchids keep their feet dry on hummocks, one can lose a shoe in the surrounding skunk-cabbage-carpeted muck. Plants appear infrequently, perhaps near blue flag iris (*Iris virginica shrevei*), woodland knotweed (*Polygonum virginianum*), and papaw* (*Asimina triloba*). Sunny, wet prairie is another habitat.

Enter the wild turkey, over whose restoration to Indiana the March/April *Outdoor Indiana* exulted for eight pages. Perhaps the Department of

Natural Resources should reconsider and research the turkey's diet. Naturalist Emma Pitcher tells of wild turkeys eating 98 out of 100 purple fringed orchids in a Michigan preserve.

Rather horrid to think that one's Thanksgiving bird could be orchid-flavored. Shades of the cartoon "Li'l Abner," with the villain who needed just one drop of pet piglet (*Hamus alabamus*) to perfect his sauce.

The piglet always escaped. Will the orchids?

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*Swink and Wilhelm allow that papaw can be spelled pawpaw. They don't say that it's also called Indiana banana in Indiana and Michigan banana over the line.



Purple fringed orchid ©1999 by Eleanor S. Saulys.

Gentle Spirit

Fond remembrance of a

Those of us who botanize on a regular basis know that wonderful sense of familiarity each growing season brings—"Ah, there's the first spring beauty in bloom," or "That's the biggest pawpaw patch I've ever seen!" Seeing these old friends return after winter releases its grip gives us a sense of the timelessness of nature, of comfort, and of home.

Imagine having to leave your country, never to return. Your one link to your homeland? The plants and natural areas that remind you of home.

Helene Starcs was born in Bikspi, a small village in Latvia, in 1912. She studied botany and natural sciences at the University of Riga and worked in the herbarium and as a lab assistant following graduation. She married Karlis Starcs, a plant pathologist working for the Agriculture Department. Fate intervened in the form of World War II. In 1944, when Russia took control of Latvia, escape seemed the best option. She left her mother behind, walking with her husband and 1-year old son Janis across a bridge out of Riga. "I couldn't have made my feet move if I hadn't been holding my baby son," and thinking of the future she wanted for him, she said.

They ended up, like thousands of other eastern Europeans, in displaced-persons camps in Germany. To pass the time and tedium of this existence and help keep their sanity, the Starcs collected and identified mosses from the local countryside, a hobby that ended up paying big dividends in Indiana years later. The refugees organized schools for the children in the camps, and Helene taught natural science to the high school students.

After six years in the camps, they were sponsored by a Lutheran church in Indianapolis to immigrate to the United States. When they arrived, Karlis was hired as a gardener by Eli Lilly II for his estate on Sunset Lane in Indianapolis. Helene wanted to go for more schooling to help find a job, and Eli Lilly agreed to buy their moss collection from Latvia to pay for that education. He then donated the moss collection to Butler University, where Helene attended classes. Unfortunately, Karlis died only a few years after arriving in Indiana, leaving Helene a single mother. Her studies in bacteriology and microbiology at Butler got her a job as a laboratory technician in medical mycology at Wishard Hospital, and she worked there for 24 years.

It was while she was at Butler University that she met and worked with Dr. John Potzger, professor of botany. She took many trips around the state with him, collecting plants and learning the natural areas of Indiana. As she became familiar with the plant species of Indiana, Potzger suggested she focus on sedges because they

were a tough group that needed someone talented to work on them. Her favorite community type was fens, and she was instrumental in helping the state identify fens worthy of protection as state nature preserves in central Indiana. She told Becky Dolan, curator of the Friesner Herbarium at Butler University (and president of INPAWS) "Lying on the ground, looking up at the clouds and seeing *Filipendula rubra* (Queen of the prairie) and *Deschampsia cespitosa* (tufted hairgrass) brought back the strongest memories of my childhood meadows."

When she retired, she was able to take botany back up as a hobby, and she leant her considerable teaching abilities to teaching plants to others in the 1980s and 1990s. Many of us in Indiana benefited. I got to work with Helene ten years ago when I was at the Hoosier National Forest and we contracted a rare plant inventory that was conducted by Helene and Perry Scott (a botanist and member of the Indianapolis Symphony Orchestra). I spent a number of days in the field with her, not only learning new plants but getting a new appreciation for those I already knew. She had a way of describing sedges that made them come alive, as if they each had a distinct personality. Perry and I were both amazed that Helene, in her early 80s, was as fit and limber as we were and did not let the hills of southern Indiana slow her down.

Roger Hedge of Division of Nature Preserves recalls, "I spent a great deal of time with Helene, marveling over her knowledge of plants. Many years ago before I worked in Nature Preserves, I wanted to learn more about sedges and called her up. She graciously invited me to her home,

Helene Starcs, Botanist

November 1, 1912—January 3, 2005

and over several weeks she went through the keys and specimens with me; my recollection is that we covered most, if not the entire *Cyperaceae* family occurring in Indiana." They also went on outings to see the sedges "in person": "Most of our trips at this time were local, such as outings to Eagle Creek or the Fortville seep, Mounds Fen, and others. It was my impression that she felt most at home in wetlands and would often approach a plant and, in her excited but quiet manner, say 'Here's my old friend!'"

great lady who taught us much about the flora of Indiana



Latvian-born botanist Helene Starcs teaching Ellen Jacquart and Perry Scott the fine points of sedge identification.

Mike Homoya of Division of Nature Preserves also remembers her expertise. “Of course, her knowledge of sedges was exceptional, and she taught several of us here at Natural Heritage the fine points in ‘Cyperology.’ I met her for the very first time in 1982 during a field excursion to southern Indiana, specifically looking at a sinkhole swamp near Palmyra in Harrison County. She found a single plant of the log sedge (*Carex decomposita*), which at that time was thought to be extirpated in the state. It was a celebratory moment.”

Her genuine love of plants was evident to all. Mike remembers, “Helene, with her gentle spirit, was able to diffuse the most angry of men. I recall a trip to the DNR Marsh Lake property in Steuben County. After botanizing the property, we were met by an inflamed landowner. Apparently we had mistakenly crossed over onto his land on the walk back to the car. In his agitated interrogation he asked what we were up to, which I’m certain he had already determined

to be no good. Helene, with her plastic bag of specimens in hand, pulled up a specimen of a sedge and enthusiastically told him of the virtues of *Carex*. In a short time, the man was visibly calmed and seemed genuinely impressed, if not puzzled, that an elderly woman would submit to the dangers of the swamp, including rattlesnakes, poison sumac, and ‘quicksand,’ for the pursuit of a lowly plant. She had won him over.”

Actually, Helene won over all of us who worked with her. This Latvian immigrant taught us much about Indiana’s flora, and we’re all grateful for what she shared with us.

Ellen Jacquart

The account of Helene’s early history was adapted from Rebecca Dolan’s article in the May/June 1999 issue of Outdoor Indiana.

Orchids to...INDOT

INDOT surprised us with an announcement at the last Invasive Plant Species Assessment Working Group meeting that they intend to remove all autumn olive from Indiana's highways! They have already finished I-70 to the Ohio border and much of I-69. Thanks to INDOT for taking the initiative on this issue—ridding our highways of this invasive nuisance is a great step to take.

Conservation Day at Indianapolis Zoo

The Indianapolis Zoo will host its third annual Conservation Day on September 17. For information, contact Cathy Kurek, Plains Biome/Conservation Day Committee, 1200 W. Washington St., Indianapolis, IN 46222, 317-630-2098.

A RIPping Good Time!

West Central Chapter of INPAWS has formed a RIP Squad to Remove Invasive Plants in coordination with Tippecanoe County and West Lafayette Parks and Recreation Departments. Joan Mohr Samuels says so far 14 volunteers have signed up to work on specific RIP spots in six parks. They'll focus on garlic mustard in the spring and bush honeysuckle in the fall. Joan hopes this program will have a RIPple effect leading to the formation of local neighborhood RIP Squads in the future!



Congratulations to everyone involved in the 2005 INPAWS Annual Plant Sale and Auction!

Due to our incredible volunteers, many weekend plant rescues, generous corporate and member donors, and a wonderful venue, this year's sale generated a record \$8999.18 in revenue, for a profit of \$8188.93. The proceeds support INPAWS programs such as brochure printing and grants.

The auction, ably run by our novice auctioneer Michael Stelts, proved a huge success. With his enthusiastic banter, supplemented with actual plant knowledge provided by Sue Nord Peiffer and Hilary Cox, Michael worked the crowd to garner \$45 for *Iris cristata*, \$45 for *Uvularia grandiflora*, and \$50 for a pair of *Phlox divaricata*, which really impressed veteran INPAWS auctioneer Rolland Kontak. Melissa Moran stepped in as recorder at the last minute and quickly learned the ropes from Mildred Kontak. Treasurer Dawn Stelts collected the payments, assisted by Diane Stippler, and kept the accounts straight.

Auctioned items included plants donated by our members, featuring an amazing terrarium of carnivorous plants courtesy of Rolland Kontak. Many items came from the multiple plant rescues at Butler University, which were organized and run by David and Dawn Bauman with logistical help from Dr. Rebecca Dolan. Generous donations were also provided by the following companies: Allisonville Nursery & Landscaping, Altum's Horticultural Center & Gardens, Hobbs Nurseries, J.F. New, Mark M. Holeman Inc., Munchkin Nursery & Gardens, Spence Restoration Nursery, Wild Birds Unlimited, and Woody Warehouse. A special thanks to Linda Bullard, who was instrumental in soliciting and picking up many of these donations.

Ruth Ann Ingraham graciously agreed to sign her just-published book *Swimming with Frogs*, adding a touch of class to a rather raucous event. All the books on hand were sold and yielded almost \$150 in profit for INPAWS.

This year's sale also generated a record 15 new members, partially due to Jane Savage's gently persuasive tactics as she worked the room handing out membership brochures, explaining our mission and the benefits of membership. Our membership now stands at 382.

Virginia Harmon once again provided and beautifully displayed a healthy snack table that was greatly appreciated by all.

Dan and Sophia Anderson had a big job this year at our education table, as we had to warn our customers of the possible presence of garlic mustard in the rescue plants. The message was ably conveyed.

Janice Gustafarro was our silent partner in this endeavor. She arranged for our use of the St. Pius X School facility and was there from the very beginning to the very last sweeping! Janice also generously provided the pizza for our Friday night volunteers and ran numerous emergency errands for supplies. Thank you Janice—we couldn't have done it without you!

Unfortunately, there isn't space to describe the myriad ways each of our other dedicated volunteers contributed to the success of the sale. Many worked both Friday night on the set-up and Saturday for the sale. We were absolutely amazed (for the second year) at how well everyone worked together to get the job accomplished, scouting out what needed to be done before we could even ask.

The following volunteers worked one or both days: George Peregrim, Janice Gustaferrro, Ron Jackson, Charles Spurgeon, Marilyn Spurgeon, Don Bryson, Carolyn Bryson, Rolland Kontak, Mildred Kontak, Becky Dolan, Kate Dolan, Paul Beihold, Stephen Beihold, Annie Beihold, Donovan Miller, Rosie Springer, Susan Zellers, Tom Hohman, Dee Ann Peine, Dan Anderson, Sophia Anderson, Krista Gremos, Ruth Ann Ingraham, Hilary Cox, Suzanne Stevens, Nancy L. Gwin, Melissa Moran, Betsy Wilson, Virginia Harmon, Cheryl Andrews, Andy Andrews, Jane Savage, Marion Harcourt, Mary Bent, Doris Thomas, Bob Thomas, Kim Krull, Chuck McCoy, and Suzanne Stevens. If we inadvertently omitted anyone from this list, please accept our apology and let us know.

Thank you all for your dedication to INPAWS and to our successful Plant Sale and Auction!

Julie Beihold and Karen Hartlep

Conservation and Native Landscaping Awards

U.S. Environmental Protection Agency Region 5 and the Chicago Wilderness consortium are now accepting nominations for the 2005 Conservation and Native Landscaping Awards program. Corporations (including not-for-profits), developers, public sector entities, and public-private partnerships can be nominated for an award. The nomination period will close July 27, 2005.

The awards recognize outstanding efforts to use native plants in landscapes within the Chicago Wilderness region. Also to be recognized are communities and developers who plan and construct residential and commercial developments in ways that protect watersheds and the environment.

Chicago Wilderness is a regional nature reserve that includes more than 220,000 acres of protected natural lands. It stretches from southeastern Wisconsin through northeastern Illinois and into northwestern Indiana.

For more information, or to nominate a site, visit www.epa.gov/greenacres/awards.html.

Balloting Continues in State Flower Project

So far, purple coneflower (*Echinacea purpurea*) is the leading vote-getter in ballots submitted by the public at various garden shows. INPAWS' effort to get a native plant to represent Indiana has also attracted media coverage. The *Fort Wayne Journal Gazette* recently featured the state flower project in an article that included interviews with Jo Ellen Meyers Sharp and Becky Dolan.

Talleys to date: purple coneflower, 435 votes; large flower trillium, 202; columbine, 199; liatris, 101; false sunflower, 78; and coral bells, 51.

Cast your vote and encourage your gardener friends to vote at the INPAWS website, www.inpaws.org.

Mustard Family Revisited

Alert reader Jerry Tiehm of the Nevada Native Plant Society spotted an error in our last Botany 101 lesson. Members of the mustard family are much more numerous than reported—more than 300 genera and 3000 species—and are found everywhere but the tropics. Jerry should know, for the *Brassicaceae* make up a large part of the flora of Nevada, occurring from the saline valley bottoms to the top of the mountains. Thanks, Jerry.



INPAWS Grants Awarded

The Small Grants Committee has announced the following awards for 2005:

- \$400 to Tina Meeks and the Eagle Creek Gardening Committee to fund native plants and tags for their "Trickling Stream" project adjacent to the Eagle Creek Park Nature Center.
- \$320 to Mickey Penrod of McCutcheon High School for native plants and identification markers used in a "Naturally Wild" project within this Lafayette school's NWF Certified Schoolyard Habitat.
- \$300 to Betty Heffelfinger of Huntington County Master Gardeners for native plants in the "Historic Forks of the Wabash Demo Gardens" on Miami Treaty Grounds.

Growing My Own

Wendy Ford, Editor

The neighbors cheered and brought water when the workers dismantled the huge satellite dish in our back yard. Who needed 120 more channels to watch when we had a new, much larger lawn to tend along with our newly purchased house?

But what to do with the 12-foot diameter mound of earth on which sat the dish—the only smidgin of topography on this converted dairy farm property? Remembering the almost vertical slopes along roadsides in Switzerland and how they let you see the meadow flowers like a massive pointillist painting on a wall, I thought, hmmm, I'll make of this mound a prairie!

The ten years since have not disappointed. The mound is where I head with my morning cup of coffee to see what's buzzing and blooming.

It's full of old friends encountered for the first time at the INPAWS auction—the standing cypress from Juanita's cherished land, the little bluestem from Carolyn's garden, the rattlesnake master, the Ohio goldenrod, the sundry treasures snapped up at auction's

end “for one price,” as auctioneer Rolland would say.

A lone specimen of prairie smoke blooms as we speak, one of five that in more innocent days I purchased mail-order as my very first planting on that rocky hill.

Hollis's wine cups have come and gone, and so has the hardy cactus I picked up from Bluestone's table at a long-ago Orchard in Bloom. These lasted only a few years. But I still have pussy toes, lead plant, indian grass, green-headed rudbeckia, something stellata (Kevin could tell me—he talked me into bidding on it), and oodles of very happy penstemon and New England aster.

The truth be told, I also have legions of Queen Anne's lace, and weedy goldenrods, and poison ivy, and this year my very own ecological crisis—a nasty invasion of myrtle. I'm not a prairie purist, so in the spring the mound is decked out in reticulated iris and later fragrant poet's narcissus. At high season a fringe of cutleaf sumac forms the backdrop for my prairie

palette. A mown path up and over lets me view everything up close.

I hope you enjoy wandering Indiana this summer. This issue of INPAWS Journal should whet your appetite for a number of locales that offer fruitful plant watching and chances to appreciate the restoration efforts of dedicated people.

Me, I'm wandering barefoot in my backyard, heading for prairie hill with my cup of coffee to see what's happening next.

This Just In...

Wildflower seeds collected last fall from the Indiana State Museum's prairie gardens are going begging! Seeds of nodding wild onion, white false indigo, swamp milkweed, liatris, cardinal flower, sweet black-eyed Susan, and gray-headed coneflower are available for the asking. Contact Dan Anderson at 317-849-3105 or danjand1@cs.com.



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A CHANCE ENCOUNTER

Prairie Fameflower

Dan McDowell

A hot afternoon the final week of July finds me exploring a black oak dune/savanna complex in northeast Lake County.

Rewarded with a couple of hours of fine summer flower viewing, I head back to my car when, near the top of a dune ridge, in an open sandy area, a couple of small plants catch my attention.

The two-inch high grass-like clusters appear almost nondescript, yet something about them presses on my mind. With a closer look, my initial puzzlement turns into pleasant surprise as I realize they are prairie fameflowers (*Talinum rugospermum*), state-listed as a threatened plant.

I was aware that prairie fameflowers were known from this site; I just wasn't expecting to see them. I now see several others in an eight- to ten-foot area, many of them with small capsuled fruits. Two plants show little pinkish floral buds seemingly close to blooming. Believing I'm probably not going to see any blooming flowers, I take my leave.

Two days later I return to the same spot a little after 4:00 p.m. Initially seeing three plants with closed pink buds, I soon start finding others. As I locate them, I begin to perceive changes in them. It dawns on me that they are starting to bloom *now*, as I watch! To see these small flowers go from tightly closed buds into vividly



Talinum rugospermum. Photo by the author.

beautiful pink blossoms in the space of fifteen minutes is fascinating. As I photograph them, I count twenty-three plants with eleven blooming stems, including four in a one-foot area.

The little colony grows along the margin of a dry open sandy area that may once have been an old road or trail. The most obvious plant associate is goat's rue (*Tephrosia virginiana*), along with an occasional small grass

or sedge. Several are completely in the open sun—apparently they tolerate harsh environments well.

Talinum rugospermum is a member of the purslane family, which includes our well-known spring beauty (*Claytonia virginica*). Indeed, the flowers of both species appear quite similar. Fameflowers are small perennials averaging five to eight inches in height, with many tipped over at an angle, appearing semirecumbent.

From the end of the rootstock, which is sometimes exposed a few inches, a cluster of nine to fourteen small cylindrical succulent leaves forms a loose circular rosette. Out of this, a short wiry stem branches into a cyme that will develop three to nine flowers during the bloom cycle in July and August.

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INDIANA NATIVE PLANT and Wildflower Society

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All are invited to submit articles, news items, and event postings of interest to our membership. Acceptance for publication is at the discretion of the editor. INPAWS welcomes opposing viewpoints.

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Summer
May 23 for July 1 mailing

Autumn
August 23 for October 1 mailing

Winter
November 23 for January 1 mailing

INPAWS Mission

To promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity, and environmental importance of indigenous vegetation.

Membership

INPAWS is a not-for-profit 501(c)(3) organization open to the public. For membership information, visit www.inpaws.org.

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A Time To Reap

Rebecca Dolan

Hello native-plant-loving friends. I hope you all had good summers enjoying the Great Outdoors.

This issue of the Journal highlights our upcoming Annual Conference, to be held in Indianapolis this year. The Annual Conference is your reward for INPAWS membership. It's a great chance to meet other members, learn from experts, and just spend some time looking at photos of beautiful plants.

Nancy Hill, chair of the event, is seeking volunteers for jobs large and small to help make the meeting its traditional excellent program. If you can give some time that day to help staff the book sale, put out snacks, or drive a speaker to the airport, please contact Nancy at nanhill86@earthlink.net or 317-283-8345. If you have never volunteered before, here is a chance to commit only an hour or so and help out our group.

Kay Yatskievych tells me she is in the final stages of data collection and writing for her ambitious *Annotated Checklist of the Vascular Flora of Indiana*. The Checklist will document all the species, subspecies, and varieties, both woody and herbaceous, known to grow outside of cultivation in the state. Each entry will list where the first Indiana record was published, other names for the entry that have been used in Indiana publications, and a voucher specimen in a herbarium if one has been found.

The Checklist will also identify species as native or non-native, say whether they are state-listed as of conservation concern, and give their Coefficient of Conservatism number. (If you don't know what the last item is, come to hear Dr. Paul Rothrock of Taylor University at the Annual Conference.)

Marcia Moore and I have been assisting Kay with this project. Most of the voucher sheets are in the Friesner Herbarium here at Butler University. Along with Kay's *Field Guide to Indiana Wildflowers* and Marion Jackson's *101 Trees of Indiana*, the Checklist will be a great addition to our understanding of the state flora.

I hope to see you at the November 5 Annual Conference.

Rebecca

Moving Firewood Spreads Ash Borer

Preventing the artificial spread of the emerald ash borer (EAB) is the most important thing we can do to protect North American ash trees, says the Indiana Department of Natural Resources (DNR).

The tiny wood-boring beetle invades new forest areas by flying to trees up to one-half mile from where it emerged in the spring. This relatively slow process is vastly speeded up when humans move infested ash wood into uninfested areas, either knowingly or unknowingly. Movement of infested firewood is the leading cause of EAB expansion!

The DNR advises:

- Do not bring firewood of any kind from home to a campground. Use local sources of firewood only.
- If you have already brought firewood from home, do not take it back home or leave it for other campers. Burn it!



Emerald ash borer. Photo by Klaus Bolte.

INPAWS invasive species expert Ellen Jacquart also advises people not to buy or plant ash trees, as they may already be contaminated.

The emerald ash borer was first detected in the Detroit/Windsor area in 2002, having arrived from Asia in wooden shipping material. It is slender, a bright, metallic, coppery-green color and about one-third of an inch long, making it difficult to spot in tree leaves.

The beetle starves ash trees of nutrients and water by tunneling under bark. Signs of infestation include leafy sprouts at the base of the tree, d-shaped borer exit holes, dieback of the top part of the tree, and larval feeding tunnels beneath the bark.

If you think emerald ash borer is in your trees, call the DNR's toll-free hotline: 1-866 NO EXOTIC (1-866-663-9684). For further information, visit www.entm.purdue.edu/EAB.

The Impending Demise of Indiana Kudzu

Ellen Jacquart, INPAWS Invasive Species Committee Chair

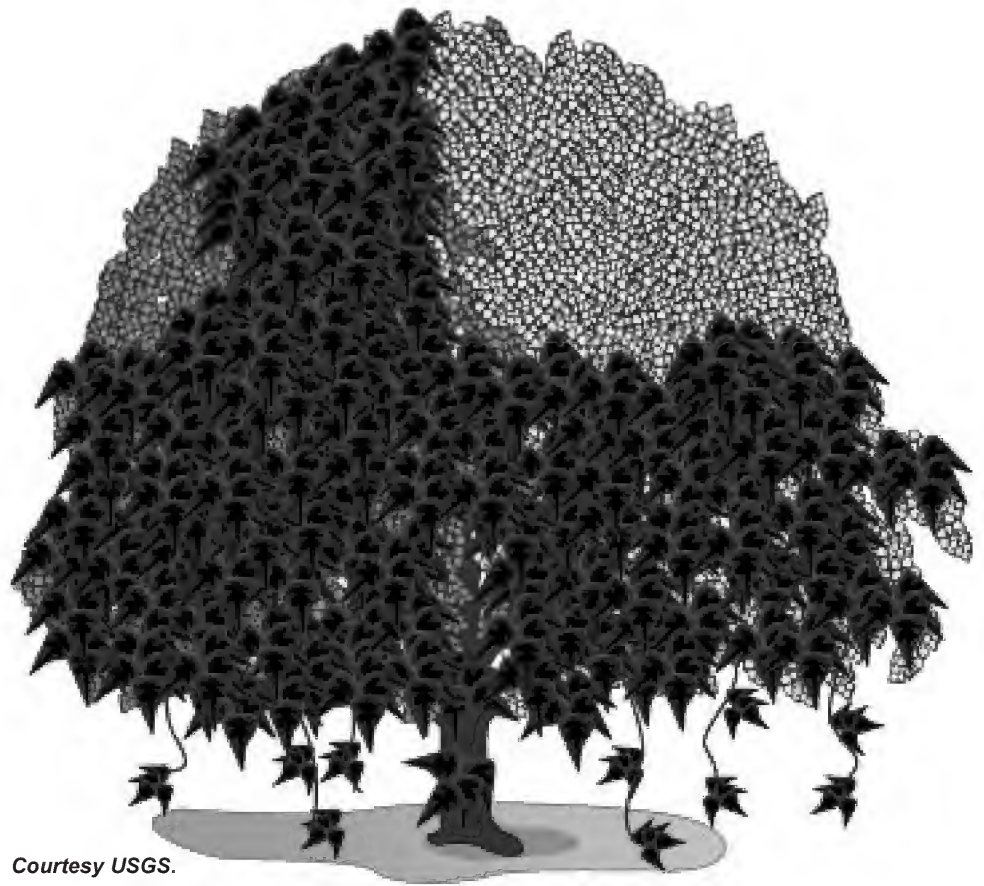
For the last two years, the DNR's Division of Entomology and Plant Pathology has been at work documenting every known site of kudzu (*Pueraria lobata*) in Indiana. The goal? To determine the extent of this species in the state—then eradicate it.

Indiana has two good reasons to eradicate this pest. First, everyone knows kudzu is tremendously aggressive in the southern states, overrunning forests, houses, and slow-moving vehicles. Until recently, we believed Indiana was too far north to really be threatened by this species. The growing season appeared too short to allow kudzu to set seed, limiting the plant to minor vegetative spread. However, in 2003, Brenda Huter of the Division of Forestry found viable seed in a population in Yellowwood State

Forest, indicating that our mild winters are now allowing this plant to set seed, making it much more mobile.

Second, kudzu poses a threat to one of Indiana's primary crops—soybeans. It has been documented that kudzu serves as an alternate host

invaded South Africa, Brazil, and Paraguay, causing yield losses ranging from 10 to 80 percent. According to Chris Pierce, Indiana's coordinator for the Cooperative Agricultural Pest Survey, the potential crop loss in the U.S. is estimated to be in the range



Courtesy USGS.



Numbers indicate kudzu sites in each county.

for soybean rust, a disease found for the first time in the United States in November 2004. Since the first find in Louisiana, it has also been detected in Alabama, Arkansas, Florida, Georgia, Mississippi, Missouri, South Carolina, and Tennessee. In the last ten years, soybean rust has

of \$640 million to \$1.3 billion in the first year and \$240 million to \$2 billion in subsequent years, depending on the severity and extent of spread. The soybean rust pathogens require a live host to reproduce and are host-specific, and kudzu is one widespread host that could serve as a reservoir.

Removing kudzu as a potential overwintering host can help diminish the threat of soybean rust.

So far, kudzu sites have been documented in seventy-three sites in twenty-five Indiana counties, totaling approximately 69.44 acres. Most sites are less than one acre in size. The largest site, in Evansville, is nearly eight acres. Ken Cotes with the Division of Entomology and Plant Pathology says kudzu sightings in the state are being confirmed by visiting the site and getting its GPS coordinates. Information is also collected from each site on associated plants, soil type, site accessibility, proximity to rare species, proximity to bodies of water, and the potential for soil erosion. Plans are being developed with DNR's Division of Soil Conservation for sites with high erosion potential.

Many groups and individuals have assisted in reporting kudzu sites, including the Indiana DNR's Division of Forestry, Purdue Cooperative Extension, and The Nature Conservancy. Illinois DNR has been helpful in providing information about the success of their kudzu eradication program.

So far the Division of Forestry has not performed any eradication work but has contacted landowners to let them know about the project and to develop a working relationship with them. About 95 percent of landowners contacted would like assistance in eradicating kudzu from their properties.

The Division is also bringing together agencies and organizations like the Natural Resources Conservation Service, Soil and Water Conservation Districts, The Nature Conservancy, and others to discuss how they can work together to fight kudzu on the ground. With their leadership, it's possible kudzu may become a thing of the past in Indiana.

If you know of kudzu populations you don't think are on the map, report them to Ken Cote at 812-332-2241 or kcote@sbcglobal.net.

BOTANY 101, LESSON 26

Rosaceae = Rose Family

Rebecca Dolan, Ph.D.

Friesner Herbarium, Butler University

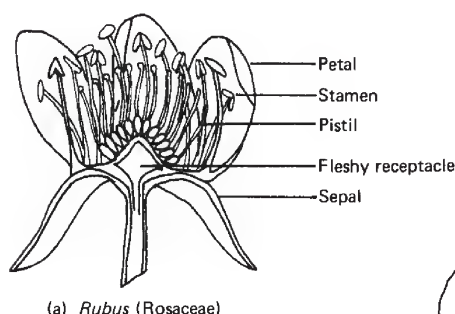
The rose family comprises about 100 genera and 2000 species worldwide, mainly in North America. Indiana has 21 genera and 101 species.

Characteristics

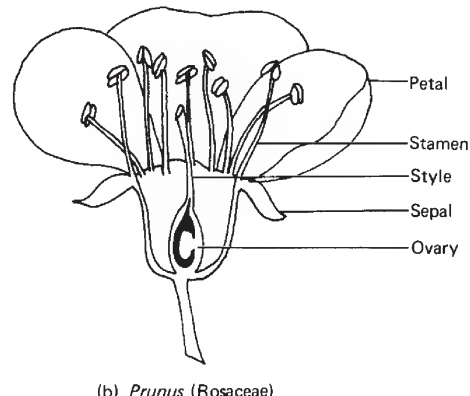
Herbs, shrubs, and trees, often armed with thorns or prickles. Leaves alternate, simple or compound, with paired stipules (extra bits of green leaf-like tissue at the base of the leaves). Flowers 5 petals and 5 sepals; many stamens. Fruit variable.

Economic importance

Fruits and ornamentals. Quince, pear, apple, blackberry, raspberry, strawberry, almond, peach, cherry, plum, apricot. Rose hips. Essential oils for perfumes from *Rosa*. Spirea, rose, hawthorn, flowering crabs.



From S.B. Jones and A.E. Luchsinger. *Plant Systematics*. New York: McGraw-Hill, 1979.



Herbaceous Indiana Natives

Agrimonia—Agrimonies

Filipendula rubra—Queen-of-the-prairie

Geum spp.—Avens

Potentilla spp.—Cinquefoils

Woody Indiana Natives

Amelanchier—Serviceberry

Aronia melanocarpa—Black chokeberry

Crataegus spp.—Hawthorns

Physocarpus opulifolius—Ninebark

Prunus serotina—Black cherry

Ribes spp.—Blackberries

Rosa spp.—Roses

Rubus spp.—Raspberries

Non-Natives Common in Indiana

Duchesnea indica—Indian strawberry

Rosa multiflora—Multiflora rose



INPAWS Sponsored Programs

Coming Up

October 22 (Saturday)—Mosses and lichens at **Plaster Creek Seep**, Martin County. Hike led by Bill McKnight and Harold Allison. Limited to 15 participants.

November 5 (Saturday)—**INPAWS Annual Conference**, 8:45 a.m. to 4:30 p.m., Indiana School for the Blind, Indianapolis. Discount for registering before October 26.

For further details visit www.inpaws.org or contact Lynn Dennis at 317.951.8818 or ldennis@tnc.org.

GROWING YOUR OWN

Hearts and Flowers for Deep Shade: *Meehania cordata*

Barry Glick, *Sunshine Farm and Gardens*

When Thomas Meehan, a Philadelphia botanist, died in 1901, I'm sure he departed for the big forest in the sky feeling proud that Nathaniel Lord Britton (1859-1934) named a genus of plants in his honor. I'd also bet he didn't know how wonderful his namesake plant was. In fact, most people don't know how wonderful *Meehania cordata* is.

Charles and Martha Oliver, proprietors of the Primrose Path Nursery in Scottdale, Pennsylvania, are dear friends of mine. I'd noticed *Meehania cordata* listed in their catalog. After reading their description and hearing them extol the virtues of this charming little plant, I asked them to please bring me one on their upcoming visit. I had requested one the year before, but it always seemed they were sold out. So I was emphatic that I must have one, and intimated that, should they not bring me one, they might end up sleeping in my barn on that chilly autumn night.

Tiarella, heuchera, and heucherella are the main focus of their breeding work, so we had planned a day of tiarella hunting in Wolfpen Hollow, a hauntingly mysterious woodland near my farm. We'd just descended from a summit into the foggy creekbottom when I heard Charles laughing hysterically behind me on the trail. Thinking that I must have a hole in the back of my pants, I turned to see what he found so amusing and saw him pointing to the ground. There, all around him, the ground was covered with "Meehans Mint."

Talk about getting caught not "practicing what you preach"—I who, in all of my lectures on native plants, make a point of telling people to "look in your own backyard"!

After I recovered from my initial embarrassment, we looked further and found the entire west-facing slope down to the creekbed a veritable carpet of dark, cordate (heart-shaped, hence the *cordata*), almost glossy green leaves vining over rocks and decaying tree limbs and basking in the deep shade of the hemlock and oak woods above the water.

I took some cuttings, not knowing whether they would root so late in the season, but I had a gut feeling of optimism. Sure enough, they rooted in a matter of weeks.

The following spring, I checked in on the population and found the new growth thick and lovely. In June, I went back to observe the flowers and found a sea of lilac, pink, and lavender trumpet-like blooms at the tips of the stems. They reminded me very much of *Scutellaria*, another member of the mint family and a close relative of *Meehania*.

In my garden, now having many plants from the rooted cuttings that I overwintered under a dark bench in a poly



tunnel (another testament to the virtues of *Meehania* is how deep a shade it thrives in), I proceeded to plant them under a small grove of lilacs and viburnums. They responded to the rich humus that had accumulated under these older shrubs and almost immediately started to wind their way around on the ground.

Taxonomically speaking, *Meehania cordata* is in the mint family, *Lamiaceae*. In North America, *Meehania cordata* is a monotypic (single) species in the genus. Its reported range is from southwest Pennsylvania to North Carolina and Tennessee. Its heart-shaped leaves are rather petite, averaging 1–1½ inches wide at the petiole and about 1 inch long. I suspect that the plant is hardy to zone 4,

maybe even zone 3. Propagation is easy from stem cuttings and by division.

I know of at least one other *Meehania* species in cultivation, that being *Meehania urticifolia*, *Meehania cordata*'s Asian cousin. It can be found growing through the woods of the mountain forests in the Honshu area of Japan. The *urticifolia* refers to the nettle-like foliage.

Meehania cordata is one of the best plants I can think of for those dark, foreboding corners of the garden where there isn't enough light for most other plants. Even if it didn't have the added benefit of those really bright, colorful flowers, I would recommend it as a useful groundcover.

You can read more about Thomas Meehan, writer, editor, nurseryman, and horticulturist, at www.hcs.ohio-state.edu/hort/history/140.html, and about Nathaniel Lord Britton, first director of the New York Botanic Garden, at www.nceas.ucsb.edu/~alroy/lefa/Britton.html.

Barry Glick is the proprietor of Sunshine Farm and Gardens, a West Virginia wholesale nursery offering "rare and exceptional plants for the discriminating gardener and collector." His entertaining "Glick Picks" articles may be viewed at www.sunfarm.com. You may contact Barry at 304-497-2208 or barry@sunfarm.com.

Editor's Note: *Meehania cordata* occurs in Illinois, Ohio, and Kentucky. It has not been identified in Indiana.

Prairie Fameflower

Continued from page 1

Apparently only a single flower opens on a plant at a time. The small half-inch flowers have five petals with a beautiful rich pink color. As I can attest, they are strictly late afternoon bloomers, and they open quickly. I count myself fortunate to have seen eleven blooming stems at the same time in this small population.

Technical information about prairie fameflower is found in Gleason and Cronquist, *Manual of Vascular Plants of Northeastern United States and Adjacent Canada* (1991). Readers may also enter the scientific name in their search engine on the Internet to find lots of additional information.

Dan McDowell is an INPAWS member and retired steelworker from Hobart, Indiana. His favorite pastime is searching the natural areas of the Dunes Region for orchids and other interesting plants.

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Barbara E. Plampin, Ph.D.
Shirley Heinze Land Trust

The guide's body English clearly indicated I was too arthritic to climb to the Roman fort crowning the barren, windswept summit of Hardknott Pass, the highest in England's Lake District.

No problem: I wanted to examine the tiny bogs near our mini-van. What I found there provided ample compensation.

With just room to keep dry shod, I could safely peer into the "boglets" starry with yellow bog asphodel (*Narthecium ossifragum*), a lily cousin foreign to Indiana.

But the slender spikes of white buds turned out to rise from the flattish rosettes of an Indiana friend, round-leaved sundew (*Drosera rotundifolia*). Wider than long, glistening nectar-dew-fringed leaves held numerous skeletal remains of prey. (It's possible to gather a nectar drop on a finger tip and taste the sweetness.)

Perhaps attracted by "dew," an insect landing on a leaf sticks in the mucilage secreted by red glands. The more-or-less dime-sized leaves, technically "adhesive traps," enclose the insect while gland-secreted enzymes extract nitrogen and trace minerals missing from the plant's nutrient-poor habitat. This carnivore, found in about twelve northern Indiana counties and sites elsewhere in northern North America, also inhabits Europe and Siberia.

With us, these plants occur in sand mined to the water table with nodding ladies' tresses (*Spiranthes cernua*), colic root (*Aletris farinosa*), and hardhack (*Spiraea tomentosa rosea*) and in or near sphagnum with larch (*Larix laricina*) and pitcher plant (*Sarracenia purpurea*).

Sometimes the glistening dew and reddish leaves lead to discovery. Deam

wrote that, in 1915, this sundew "was so abundant on the moist, sandy shore of Walker Lake, Porter County, that it covered acres, and at a distance, the ground looked red." (A steel mill later filled in the lake.)

With one or two exceptions, the populations of round-leaved sundew I know are bathmat-sized or smaller. Size or even presence of plants seemingly depends on rainfall.

Large colonies remain at Indiana Dunes National Lakeshore's Pinhook Bog (signing up for a ranger-led hike is mandatory) where plants grow with its state-listed coastal plain cousin, intermediate sundew (*D. intermedia*), characterized by mounded basal rosettes of spatulate leaves.

In autumn, both species produce hibernacula—sea-urchin-like winter buds that grow into new plants.

Some Books

Deam, C.C. *Flora of Indiana*. Reprints of US-Floras. J.Cramer. 1984.

Lippert, W., and D. Podlech. *Wildflowers of Britain and Europe*. HarperCollins, 1994.

Schnell, D.E. *Carniverous Plants of the United States and Canada*. 2nd edition. Timber Press, 2002.

Swink, F., and G. Wilhelm. *Plants of the Chicago Region*. 4th edition. Indiana Academy of Science, 1994.

Round-leaved sundew.
Courtesy Department of
Fisheries and Oceans Canada.



Membership renewal is available at the INPAWS Annual Conference.
Renew November 5 and avoid the January rush.

Seed Collecting Tips for Native Plants

Dawn Bauman, Chair, INPAWS Native Plant Rescue

Seed collecting can be an easy, economical way to rescue native plants, repopulate native plantings, or try growing natives in your own garden. The seeds produce many small plants and, unless disturbed, the mother or stock plant is left untouched. Just make sure you **take less than one-third of the seed** from any one plant to ensure that the plant can sustain itself.

Here are some tips to make this fall's seed harvest successful.

1. Know the plant's life cycle.

Collecting seed requires familiarity with the life cycle of the plant. You need to know when the plant flowers, when it forms seeds, and when the seeds mature. Observation and recording will give you the experience you need to overcome the most difficult part of seed collecting—the timing. Watch the growth cycle of each species throughout the year, and record what you see.



Courtesy Gene Bush, Munchkin Nursery, www.munchkinnursery.com.

2. Determine whether the seeds are dry or fleshy.

When observing plants, note whether the seeds or fruits are dry or fleshy—are they more like sunflower seeds or more like apricots? Knowing the difference helps you pick the best time to harvest and know how to store the seeds appropriately. Many woodland plants have fleshy seeds, like the bright red berry-like seeds of jack-in-the-pulpit, and green dragon. Many prairie plants and grasses have dry seeds, like the prickly black seed heads of purple cone-flower and the delicate grassy plumes of prairie dropseed.

3. Time your harvest to match seed development.

Timing of the harvest is all-important. If collected too early, the seeds will be immature; if collected too late, the seeds may be dried out or gone. Observing seed development is the best way to decide when to collect. The mature seed of dry seed types is usually dark, firm, and dry. Fleshy seeds turn color as they ripen and should be collected as they are turning color.

The dispersal methods of different species provide clues to the proper harvest time. Plants whose seeds ripen in pods should be collected just as the pods are beginning to open. Seeds such as twinleaf (*Jeffersonia diphylla*) and bloodroot (*Sanguinaria canadensis*), which have a fleshy appendage, need to be collected before the capsules split. Usually when one capsule begins to split the others soon follow, so watch carefully over a period of a few days—it happens fairly quickly when it happens.

Pods that break open and shoot out dry seeds can be contained by placing a paper sack over the head and closing the open end with a twist tie. Collecting the entire pod is good because the seed will continue to ripen in the pod as it dries in the paper sack.

Some seeds ripen at various times, such as the seeds of wild columbine (*Aquilegia canadensis*). Collect these by taking the entire capsule or pod or by shaking the inflorescence over a tray or sack to catch the ripe seeds. Seed can be collected over several days during August to October and dried for one or two weeks in open paper bags or open plastic bins, shaking or turning the seed heads periodically.

Dry open prairie plants and wildflowers that have spiny seeds should be collected as entire seed heads, usually from August through October. Collect aster seeds when they are easily removed from the head. They are dark gray at maturity. Plants with seeds in a spike inflorescence can be harvested like grass. Collect grass seed by running your fingers up the flowering stems, stripping them.

4. Label the contents of collecting bags as you harvest.

Accurate labeling of the collection bags is important and should be done while collecting. Use common names unless you are sure of the scientific name, and be sure to include the collection date and location. This will help with record keeping.

Collect dry seeds in paper bags or paper envelopes so that the seeds don't retain moisture. Collect fleshy seeds in a sealed plastic container, preferably with a small amount of moist moss or vermiculite. Some people recommend a one-to-one ratio of moist sand, moss, and vermiculite or peat-perlite mix (Pro-Mix). The seeds of most woodland plants or early spring ephemerals need to be kept moist.

Be aware that the ink of permanent markers will dissolve on plastic bags. Instead, use the marker to write on freezer tape on the outside or on a small piece of paper slipped inside.

5. Clean and store seeds properly.

Fleshy seeds should be cleaned and sown as soon as possible. If they dry out, they may lose their viability or spontaneously germinate.

Dry seed should be left to fully mature and ripen after harvest by allowing air circulation in the collection bags. Storage in a brown paper sack at room temperature aids in after-ripening while helping to prevent mold.

6. Know what conditions stimulate germination.

Some seeds remain capable of germinating even after being stored for a long period of time. Such seeds have a seed coat that protects them from drying out and keeps them from germinating until conditions are right.

Some seeds have the added protection of a germination delay mechanism that can only be overcome by a specific series of conditions over time, such as drying, variations in temperature (stratification), wounding (scarification), exposure to light, and removal of germination inhibitors by washing or soaking overnight.

You'll need to research individual species to determine how to simulate the conditions they need for seeds to germinate.

Techniques to Stimulate Seed Germination

The conditions favorable to germination vary considerably from species to species. Here is a sampling of the methods used to germinate various species.

☼ **Dry storage.** Storing seed dry in the refrigerator for one to three months aids in after-ripening. This technique is useful for species such as *Aster*, *Baptisia*, *Campanula*, *Coreopsis*, *Gaillardia*, *Helianthus*, *Oenothera*, and *Tiarella*.

☼ **Stratification.** This technique tricks seeds into thinking it is spring when they are sown. Seeds are packed in moist vermiculite, perlite, or sand and kept cold to simulate winter. Some seeds require a period of dry storage before stratification.

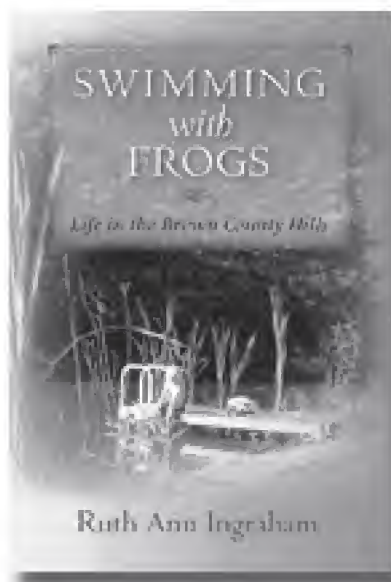
Three months of moist, cold stratification (40° F) are required for *Amsonia*, *Anemone*, *Aruncus*, *Echinacea*, and *Aconitum*. Multiple cycles of warm and cold temperatures (40–70–40–70° F) are required for *Erythronium* and *Polygonatum*.

Three months of warm, moist stratification followed by three months of cold, then shifting to warm again are required for *Lilium*, *Filipendula*, *Dentaria*, *Dicentra*, and *Claytonia*.

☼ **Cleaning and washing.** Removing seed from fruit and washing out germination inhibitors is required for *Arisaema*, *Polygonatum*, and other species with seeds imbedded in fruit. This is usually combined with other pretreatment.

☼ **Light exposure.** Providing light to stimulate germination is required for common wetland species such as *Chelone*, unlike most seeds, which are covered to a depth equal to the diameter of the seed itself.

☼ **Soaking or scarifying.** Seeds with thick coatings need to have them softened or nicked to enable germination. *Hibiscus* seed may be sown immediately after a warm water soak overnight. *Ipomoea* need to be scarified by clipping the pointed end of the seed with a file or nail clipper and soaking overnight.



AVAILABLE AT THE ANNUAL CONFERENCE

Swimming with Frogs

Life in the Brown County Hills

by Ruth Ann Ingraham

A delightful memoir of life in the hills of Brown County, Indiana.

Close observations of nature as well as thoughtful musings about life. Beautifully illustrated with color photos and black and white drawings.

For naturalists of all stripes, fans of contemplative writing, and Brown County residents and visitors. A fine holiday gift for your nature-minded friends and relatives.

Proceeds from Annual Conference sales go to INPAWS.

INPAWS Annual Conference

Mark those calendars! The **2005 INPAWS Annual Conference** will be **Saturday, November 5** in Indianapolis. Our exciting lineup of speakers includes internationally recognized keynotes Bill Cullina and Neil Diboll. Watch for registration information in the mail and at www.inpaws.org.



William Cullina New England Wild Flower Society

Bill Cullina's gorgeous, seminal books on the use and propagation of native plants are essentials of any gardening library. His first, *The New England Wild Flower Society Guide to Growing and Propagating Wildflowers of the United States and Canada* was followed by his *Native Trees, Shrubs, and Vines: A Guide to Using, Growing and Propagating North American Woody Plants*.

His newest book, *Understand Orchids*, was published in November 2004. Work is underway on a third volume in the natives series—on grasses, ferns, and mosses—due to be published in 2007.

Bill is the nursery manager and propagator at the New England Wild Flower Society's Garden in the Woods and Nasami Farm. Bill's talks at the conference will be **The Triangle of Happiness: Native Plants for Those Tired of High Input Gardening** and **Secrets and Myths of Native Plant Propagation from Seed**.



Neil Diboll Prairie Nursery

Neil Diboll is President of Prairie Nursery in Westfield, Wisconsin, one of the country's finest sources for native plants and seed. Recognized internationally as an expert in ecological and natural landscape design, he designs for highways, county parks, golf courses, commercial facilities, estates, and public, private, and university arboreta throughout the Midwest and Northeast. Neil lectures worldwide, spreading the word about the use of native plants as far away as Britain's Royal Botanical Gardens at Kew. Neil's presentation at the conference will be **Five Steps to Successful Prairie Establishment**.

With Additional Sessions On . . .

The Mushrooms of Indiana

Indiana's Glacial History and its Impact on Flora and Fauna

Frogs of Indiana

Floristic Quality Assessment

Wetlands Restoration at the Scott Starling Nature Sanctuary

Hoot Woods

Marion T. Jackson, PhD
Professor of Ecology
Saint Mary-of-the-Woods College

Legacy of a Pioneer Family

The first six essays in Marion Jackson's "Favorite Trees" series focused on individual **tree species**: Kentucky coffee tree, umbrella magnolia, witch hazel, butternut, tulip tree, and sassafras. Individuals of a species greatly resemble one another and actually or potentially share a common gene pool; in short, members of a species can reproduce among themselves.

This story features a **forest community**: Hoot Woods located in Owen County, Indiana. Ecological communities are composed of many (usually) species that have mutual tolerances to the environmental conditions prevalent at their site of occurrence. By virtue of their interactions, they are able to continue their forest stand for centuries, millennia, and often much longer.

Editor's Note: Hoot Woods is private property and not open to the public. However, The Nature Conservancy leads hikes there every few years for interested members.

Of the approximately 50 old-growth beech-maple dominated remnants of the original Eastern Deciduous Forest ecosystem that my students and I have researched during more than 40 years, Hoot Woods ranks as my all-time favorite.

This is true for several reasons, not the least of which is our continuing intensive re-surveys of the stand at decade intervals.

During the summer of 1965, my graduate student Phil Allen, a native Owen Countian, did a full census of all the trees in approximately 16 acres of Hoot Woods, then plotted the nearly 1,500 individual trees as to their exact location on a 1:33 scale map. This data set provided the basis for Phil's thesis and for re-surveys in 1975, 1985, 1995, and the 2005 inventory completed this June. Each decade, each tree is measured to record growth increments. Also noted are the deaths of individual trees and in-growths of saplings. Dr. Mark Cowell, formerly of ISU and now at U. Mo. at Columbia, assisted me in this year's field study and will continue the project into the future.

That Hoot Woods still exists is a tribute to the Hoot family who emigrated from Germany during the 1860s to homestead their 160-acre farm, and who currently continue joint ownership among their descendants as a family trust. About 64 acres of the farm are still heavily forested and largely intact as an American beech-sugar maple-tulip tree dominated old-growth forest. The Indiana Chapter of The Nature Conservancy now holds a conservation easement on Hoot Woods itself, to insure its future protection.

Few places in Indiana are less changed from their original rural landscape than Owen County in the vicinity of Hoot Woods. The 21st Century erases from my consciousness as I traverse the narrow gravel roads deeper and deeper into Indiana's history. Moving down the entry lane of the Hoot farm toward the pleasant farmhouse on the hill, and walking the footpath to the woods, I sense the presence of the generations of Hoot family members who lived here, and who loved and protected their Granddad's woods.

My interest in Hoot Woods transcends the longevity of my study, as does my appreciation for the immense ecological values represented by the huge trees as members of an ancient, continuing ecological community. Each re-survey has taken on a deeper meaning, a more intimate association with Nature as it originally was, so that this summer's re-visit assumed a spiritual dimension.

As I stepped into the woods proper, the dim green-filtered forest light greeted and soothed my eyes. Liquid notes of wood thrushes drifted flute-like across the forest understory. The wild staccato cries of a far-off pileated woodpecker told me that I was home again.

It all began for me when I spent my boyhood years next to an old-growth beech-maple stand in what is now Versailles State Park. Now, here in

another such forest, I feel that I truly belong.

Throughout my professional career as an ecologist I have walked among the virgin forests of the North American continent, taping their trunks, taking the girth of life, as it were—arching my neck to look up through lofty crowns to the sunlight that powers and sustains the trees. The objective of my studies has always been to understand the patterns and processes that ensure the continuation of Nature, and to devise protection strategies to make that survival possible.

As our survey begins, I call out the tree diameters in centimeters to my data recorder: sugar maple 22.6, beech 74.2, tulip tree 128.9, red elm 17.9.... I have measured many of these trees five times since 1965. These trees and I have a kinship, and in the recesses of my mind I feel they recognize me as I again encircle their trunks and note their diameters.

As I walk through the forest stillness, my mind drifts back to that first inventory when I was in my early 30s. These trees and I have grown together during those decades—they in girth and volume, me hopefully in perception and understanding of what is truly important. After most of a lifetime of viewing and studying nature, I truly feel that an organic thread connects all of life—that to diminish any life is to diminish all life. This understanding must be the basis of Thoreau's dictum that, "In wildness is the preservation of the world."

The largest tree in our Hoot Woods study area is a magnificent chinquapin oak, *Quercus muehlenbergii*. Majestic when we began our study, it was losing vigor in 1985, and when we surveyed in 1995 it had recently



The author tapes a 4-foot dbh chinquapin oak in Hoot Woods in June 2005.

died. Now, in 2005, it still stands fully erect, but the bark of its trunk is gone, revealing a still rock-hard trunk more than 48 inches dbh (diameter at breast height). Nature, the original recycler, is deliberate in both its life and its death processes. This incredible oak likely garnered nearly four *centuries* of summer sun during its lifetime as it built its massive body—followed by as many *decades* to fully recycle its stored nutrients to the soil after its death. The 40-year

time window of our study is a mere "eyeblick" in the total history of Hoot Woods, which has occupied the site for perhaps 10 or 20 millennia since Pleistocene ice last vacated the Owen County region.

God willing, I look forward to joining the 2015 inventory, to see if the great oak is totally gone and to reconnect with the hundreds of its companion trees in my favorite beech-maple woods.

Keeping Indiana Wildlife from Becoming Endangered

DNR is developing a comprehensive wildlife strategy—an unprecedented “blueprint” for keeping all wildlife populations healthy by focusing on the habitats they need to thrive.

The goal is to keep species off the threatened and endangered species list and keep our common species common. Working with technical experts and partners throughout the state, DNR is pursuing a science-based approach to identify how to best protect Indiana wildlife at a landscape scale.

In an effort to encourage a more integrated approach to wildlife conservation, Congress has required all states and territories to develop comprehensive wildlife strategies by October 2005 to be eligible for potentially significant federal funds for wildlife conservation. Continued federal funding will allow DNR and other conservation partners to work together to provide more “on the ground” habitat projects.

“Only about 3 percent of Indiana’s land area is in public ownership, so the vast majority of wildlife species are located on private land,” stated Katie Smith, Chief of the DNR Wildlife Diversity Section. “It is clear that wildlife conservation will be best accomplished in Indiana through partnerships with private landowners and conservation organizations.”

According to Smith, habitat quality and quantity are the primary factors affecting wildlife populations in the United States and this process will help conserve all wildlife species in Indiana.

“This is an historic effort that has never been done before,” said Glen Salmon, Director of the DNR Division of Fish and Wildlife. “Having all fifty states and U.S. territories simultaneously developing these strategies

presents a tremendous opportunity for conservation at a landscape scale.”

DNR welcomes input on this historic effort from all Hoosiers. Feedback will help DNR and its partners provide an accurate representation of statewide wildlife and habitat needs. To find out more about this process visit www.djcase.com/incws.

November 23 is the deadline for submissions to the Winter 2006 issue of INPAWS JOURNAL. See page 2 for details.

DNR Releases 2005 Indiana Big Tree Register

For the past five years, many Hoosiers have been stalking big trees. These efforts have resulted in the 2005 edition of the Indiana Big Tree Register, now available free of charge at the DNR.

The seventh edition of the Register lists 112 species of trees considered native to Indiana. Of those, 91 are represented as “champions” (in terms of size), and two species are represented as co-champs. All were nominated by tree enthusiasts. “These are people who appreciate the value that large, mature trees provide to the state,” explained State Forester John Seifert of the DNR. “Trees...sequester more carbon, collect more pollution, and give more oxygen just by merit of their size. That’s why it’s important to properly manage urban and rural woodlots, and to maintain and plant trees in our cities, towns, neighborhoods, and yards.”

The largest tree—the Big Tree Champ—for this year’s publication is a sycamore located in Johnson County near Trafalgar. The smallest of

the Big Tree Champs is a green haw growing in Wesselman Woods Nature Preserve in Evansville.

Four trees have reigned as champions since the inception of the Register in 1974: a Deam Oak in Wells County, a black walnut in Fayette County at Schraeder-Weaver Nature Preserve, an American elm owned by Jim Herzog in Rosedale (Parke County), and a tulip poplar owned by Bill Quillam of Washington (Davies County).

DNR foresters verified 240 nominations for the 2005 version of the Register, which is published every five years. For more information, or to receive a free copy of the Indiana Big Tree Register, contact Janet Eger at 812-279-3391 or jejer@dnr.in.gov.

Purdue Offers Plant Diagnostic Services

Got a sick plant? The Extension Office in each Indiana county has an Agriculture and Natural Resources Educator who can look at samples. To find your local Purdue University Cooperative Extension Service, visit www.ces.purdue.edu/counties.htm.

If diagnosis is a problem, photos can be sent to all the educators, thus pooling the expertise of more than 100 Purdue staff. If necessary, a sample can be sent to the Purdue Plant and Pest Diagnostic Lab. The charge is \$11 per sample. For information about sending samples to the lab, visit www.ppd.purdue.edu/ppdl/SampleSubmission.html.

The Purdue Diagnostic Lab home page, www.ppd.purdue.edu/ppdl, features breaking news, a picture of the week, links to Mary Welch-Keesey’s “What’s Blooming” articles, Tom Turpin’s insect articles, and archived information on past problems.

INPAWS Bus Trips Are Back!

Twenty-eight intrepid native plant lovers braved 93-degree weather September 9-11 to take in the sights at the Missouri Botanical Garden and Shaw Nature Reserve on INPAWS' first bus excursion in several years.

MBG botanists Kay and George Yatskievych provided personalized tours of both sites, including a rare book collection at the MBG research facility, and cheerfully fielded endless technical queries from their savvy visitors.

New and old INPAWS members became acquainted as camaraderie developed on the bus rides, over box lunches, and especially around joint efforts to identify plants.

Our thanks to Ruth Ann Ingraham and Lynn Dennis for organizing the event. We look forward to more! *Your ideas for excursion destinations are welcome. Please contact program chair Lynn Dennis at 317-951-8818 or ldennis@tnc.org.*



George and Kay Yatskievych of the Missouri Botanical Garden were our expert guides.



Soaring temperatures did not dampen spirits in the luxurious restored prairie plantings at Shaw Nature Reserve.

Walk-Ins Welcome at Wabash River Symposium, October 6-7

"The River of Indiana" is the focus of this year's fall meeting of the Indiana Academy of Science at Saint Mary-of-the-Woods College near Terre Haute.

Cosponsored by Hanover College's Rivers Institute and IAS, the symposium features a keynote address by Dr. James Gammon, Professor Emeritus, DePauw University, with a sneak preview of a new video on the Wabash (Thursday, 7:30 p.m., free and open to the public) and talks on the biology and conservation of the Wabash River by local authorities (Friday, 8 a.m. to 12 noon.; \$15 fee).

All talks will be held in Room 100, Hulman Hall, on the campus of Saint Mary-of-the-Woods. For information, contact Daryl R. Karns at karns@hanover.edu or 812-866-7249.

Swimming with Frogs: Life in the Brown County Hills

Reviewed by Bobbi Diehl

Several years ago, Ruth Ann Ingraham asked me to read her unfinished manuscript and tell her how to make it more publishable. As it played into one of my favorite fantasies—the purchase of a Brown County cabin—I was happy to oblige.

I found the manuscript as yet rather unformed and advised Ruth Ann that it needed tightening, reorganizing, and refocusing. That was the end of my involvement.

I later heard that Indiana University Press had given her a contract and was pleasantly surprised six months ago to hold the completed *Swimming with Frogs* in my hands. I read it straight through. Ruth Ann had done a tremendous amount of work, and it showed. The book is amusing, informative, and has gorgeous photographs. Anyone who cares for the environment should have it, not only for the cabin adventures—which never stop—but for the wonderful tales of Ruth Ann's and Joe's interactions with the Brown County wildlife and flora.

The obvious subjects, such as water, trees, birds, deer, and wildflowers, are dealt with capably, as one would expect of an INPAWS co-founder. The frog and toad chapter is wonderful—Ruth Ann adores amphibians. There are also unexpected delights, such as the chapter on mushrooms. As for “Mousy,” it is a tour-de-force, alone worth the price of the book. I could go on but prefer to let each of you discover your favorites.

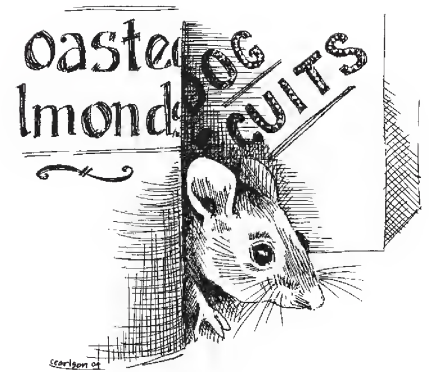
Ruth Ann has done much for the environment just by her actions over the years, not to mention her generosity to environmental causes. Now she has written this book, which is sure to inspire readers to do more also—and I'm happy to say it's selling briskly.

So buy a copy while supplies last and, when you have time, sit next to your favorite window, put your feet up, and crack open *Swimming with Frogs* for your own enjoyment.

Then let me know how you like it!

*Appreciate living simply.
Think small.
Cultivate the state of quietness;
then listen and observe intently.
Nurture nature.
Be open to joy, despite grievous loss.
Discover and protect the wonders
of our diverse world.
Love life.*

—Ruth Ann Ingraham



“Mousy” rendered by Chris Carlson.

Editor's Note: Ruth Ann donates her royalties to The Nature Conservancy's Brown County Hills Project.



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Restoring Prairie Creek Barrens One Step at a Time

Michael A. Homoya, Botanist/Ecologist
Indiana DNR Division of Nature Preserves

Rome wasn't built in a day, and neither is a restoration project. Recently this has become abundantly clear to me while working to restore a natural community in the sand hills of Daviess County.

Two hundred years ago the early land surveyors and pioneers referred to our sand hill community as barrens, a name that ecologists continue to use to describe natural grassland communities with droughty conditions and sparse tree growth. Sand barrens once occupied dozens of square miles in southwestern Indiana, but today have all but disappeared.

The specific area to be restored is located at an Indiana DNR State Nature Preserve known as Prairie Creek Barrens, an 85-acre tract located about five miles north of Washington. Although the wetland portion of the preserve is significant in its own right (and the reason for the acquisition), the uplands were in row crops just prior to its pur-

chase in 1999. Our goal for the upland restoration is to reintroduce species that are appropriate for the site both ecologically and genetically, i.e., species that would have grown naturally in the sand barrens habitat, and that possess the genetic makeup specific to the area. But how do we know what species are appropriate, and where do we find local plants if the habitat has disappeared?

Fortunately, there's help. Determining what grew near the preserve was greatly benefited from the work of the early 20th century botanists Charles Deam, Dorothy Lawlis, Ray Friesner, and Ralph Kriebel. Although the natural vegetation was already quite rare when they botanized the area in the 1930s and



Mississippi milk pea (*Galactia volubilis*) is one of many species being introduced at Prairie Creek Barrens. Drawing by Joe MacGown.

40s, there were still a few existing remnants. Many that they visited were within a few miles of the preserve, with one site as close as one-quarter mile. [You can find references to the latter site in Deam's *Flora of Indiana* under the headings of milk-pea (*Galactea volubilis*) and slender marsh pink (*Sabatia campanulata*)]. Luckily the botanists collected specimens, now housed in herbaria, that enabled us to compile a species list. An additional reference that was of great help was the 1947 work by Dorothy Lawlis, then a graduate student at Indiana University. Her thesis, titled "Taxonomic Survey of the Vascular Plants of Seven Wind-blown Sand Hills in Southwestern Indiana," has a complete list of plants she

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INDIANA NATIVE PLANT and Wildflower Society

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All are invited to submit articles, news items, and event postings of interest to our membership. Acceptance for publication is at the discretion of the editor. INPAWS welcomes opposing viewpoints.

Please submit text and photos via e-mail to wwford@comcast.net or via land mail to INPAWS JOURNAL, 6911 Cabernet Way, Indianapolis IN 46278. Submission deadlines for specific issues are as follows:

Spring
February 23 for April 1 mailing

Summer
May 23 for July 1 mailing

Autumn
August 23 for October 1 mailing

Winter
November 23 for January 1 mailing

INPAWS Mission

To promote the appreciation, preservation, conservation, utilization, and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity, and environmental importance of indigenous vegetation.

Membership

INPAWS is a not-for-profit 501(c)(3) organization open to the public. For membership information, visit www.inpaws.org.

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Education	Dan & Sophia Anderson	317-849-3105	danjand1@cs.com
Grants & Awards	Joan Mohr Samuels	765-567-7023	mohrsamuels@insightbb.com
Historian	Ruth Ann Ingraham	317-253-3863	rai38@aol.com
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Journal Editor	Wendy Ford	317-334-1932	wwford@comcast.net
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Programs & Field Trips	Lynn Dennis	317-951-8818	ldennis@tnc.org
Speakers Bureau	Kit Newkirk	765-653-5590	kit@gamepreserve.com
Website	Marcia Moore	317-940-8302	mmoore@butler.edu

A Push for Conservation

Rebecca Dolan

Hello friends,

Congratulations to Nancy Hill and her committee on another successful Annual Conference. More than 150 people heard educational talks, visited vendor displays, and enjoyed tasty food in the beautiful, historic Indiana School for the Blind.

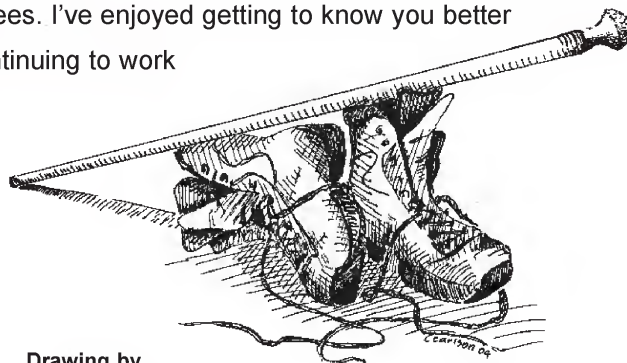
Upcoming events for INPAWS include the second annual Conservation Day at the Statehouse on February 20, 2006. This event is organized by the Indiana Conservation Alliance (INCA), an umbrella group of conservation-oriented organizations whose goal is to promote a conservation ethic in the state. Many INPAWS members attended last year.

Conservation Day starts with a session on how to meet with your legislator and share your concerns about environmental issues. It is an excellent civics lesson. I would never have thought that you could send in a note when the legislature is in session and your senator or representative will come out to chat with you. It actually works this way. The INCA training helps you understand how to be most effective in your communication.

Following the training, there is a poster/booth display session in the rotunda and a buffet lunch to which legislators and staff are invited. Please mark your calendar and plan to attend if you can. If you came last year, you are welcome back for all or part of the day. Volunteers are needed again to help with check-in and other logistics.

This is my last President's Message. If I can take credit for any improvements in INPAWS during my presidency, it is finding excellent volunteers willing to chair committees. I've enjoyed getting to know you better and look forward to continuing to work with our new President, Karen Hartlep, her Council, and all of you in 2006.

Rebecca



Drawing by
Chris Carlson.

INCA: The Indiana Conservation Alliance

This state-wide network of nonprofit organizations provides a unified voice for the protection and wise use of natural resources to enhance our quality of life. INCA works to foster and promote:

- A greater conservation ethic throughout the state
- Organized conservation advocacy
- Greater legislative, financial support for conservation
- Collaboration between and networking with various organizations

The INCA collaboration began in fall 2004, focusing on Conservation Day 2005 as its major activity. Plans are being made for an INCA weekend this summer, which would include coordinated activities throughout the state.

Conservation Day 2005 sponsors were:

1. American Fisheries Society, Indiana Chapter
2. Central Indiana Land Trust, Inc.
3. Hoosier Environmental Council
4. Hoosier Heartland RC&D
5. Hoosier Hikers Council
6. The Wildlife Society, Indiana Chapter
7. Indiana Deer Hunters Association
8. Indiana Forestry and Woodland Owners Association
9. Indiana Land Protection Alliance
10. INPAWS
11. Indiana Park and Recreation Assn.
12. Indiana Wildlife Federation
13. Izaak Walton League, Indiana Div.
14. Indiana Sportsmen's Roundtable, Inc.
15. Pheasants Forever, Central Indiana
16. Save the Dunes
17. Sierra Club, Hoosier Chapter
18. Soil and Water Conservation Society, Hoosier Chapter
19. The Nature Conservancy, Indiana Chapter
20. Whitewater Valley Land Trust

For more information, call Angela Hughes at 317-951-8818 or 800-YES-LAND or email ahughes@tnc.org.

It's sobering to look out over the vast landscape, knowing how magnificent it must have been, and now being forced to sift through the scraps.

Barrens, continued from page 1

encountered in habitats similar to those at the preserve. It was from her list, and the compilation of herbarium specimens, that we developed a plan of what species to introduce into the preserve.

With information in hand, our next task was to locate the sites, find the listed plants, and gather seeds for the restoration. Sounds simple enough, right? Unfortunately that's not been the case. The sad reality is that the remnants visited by Deam and the others are but a vestige of their former selves. During the past 60 years all of them have experienced changes unkind to the native flora. Today we're lucky if we find any native plants at the sites, and if we do, it's often only a few individuals. It's sobering to look out over the vast landscape, knowing how magnificent it must have been, and now being forced to sift through the scraps.

But we keep looking...looking along road cuts, in fencerows, on ditch banks, along railroad rights-of-way... anywhere a desired native species might be hanging on. And to our amazement, we've found quite a few, albeit in low numbers of individuals. These few are the survivors, somehow having outlasted all that's been thrown at them—livestock, herbicides, aggressive exotic species, and the plow. Seeing such a plant, especially one that exists as a lone individual, often brings pause as I realize that it could be the last of its kind in the region, perhaps attached to an ancient rootstock that dates back to the time when bison and wolves roamed the land. Now *that* is a survivor.

It also makes me realize that there's not much time left to act. It's conceivable that in another 60 years most if not all of these plants will be gone. Thus we gather seeds. Over the past few years, these seeds have been germinated and nursery-grown for eventual planting at the preserve.

With Golden Eagle Grants from Indianapolis Power and Light to cover the costs of producing over 18,000 seedlings of more than 60 species, and planting assistance from volunteers, including INPAWS members and university students (mostly from Indiana University—Purdue University Indianapolis and University of Southern Indiana), we're off to a great start.

Partial List of Species Introduced into Prairie Creek Barrens

<i>Andropogon gerardii</i> (big bluestem)	<i>Lespedeza capitata</i> (round-headed bush clover)
<i>Asclepias amplexicaulis</i> (sand milkweed)	<i>Monarda fistulosa</i> (wild bergamot)
<i>Aster patens</i> (purple daisy)	<i>Penstemon calycosus</i> (smooth beard tongue)
<i>Bouteloua curtipendula</i> (side-oats grama)	<i>Ruellia humilis</i> (wild petunia)
<i>Chrysopsis camporum</i> (golden aster)	<i>Schizachyrium scoparium</i> (little bluestem)
<i>Commelina erecta</i> (barrens day flower)	<i>Sorghastrum nutans</i> (Indian grass)
<i>Coreopsis tripteris</i> (tall tickseed)	<i>Sporobolus clandestinus</i> (rough rush grass)
<i>Desmodium sessilifolium</i> (sessile-leaved tick trefoil)	<i>Ratibida pinnata</i> (yellow coneflower)
<i>Galactia volubilis</i> (Mississippi milk pea)	<i>Tephrosia virginiana</i> (goat's rue)
<i>Gaura filipes</i> (slender stalked gaura)	
<i>Kuhnia eupatorioides</i> (false boneset)	



Though not as open as Indiana's original sand hills, this northeast Illinois oak savanna resembles Prairie Creek Barrens. Photo by Mike Pingleton at www.pingleton.com.



Remembering Sara Stein

Sara Stein, natural gardening advocate, educator, and author, died February 25, 2005, at her home in Vinalhaven, Maine, after a battle with lung cancer. She was 69 years old. Cindy Crosby, a member of the education and advocacy group Wild Ones®, interviewed Sara in 2004.

Introduction by Cindy Crosby

Through her books, Sara Stein has taken us along on her journeys of self-education and discovery.

Roses and lawn, vegetables and flowerbeds. They comprised my gardening palette until six years ago when I moved to suburban Chicago and a friend gave me Sara Stein's *Noah's Garden: Restoring the Ecology of Our Own Backyards*. Sara's wry, down-to-earth description of the transformation of her rural New York acreage from traditional to a more native landscape, brimming with biodiversity, captured my imagination. Six years later, inspired by her book, my backyard likewise has morphed to include a small pond, a tallgrass prairie plot, and a wildlife-friendly tree.

Others across the country were also reading *Noah's Garden* and rethinking their approach to landscaping. Sara writes, "*Noah's Garden* became the story of what has gone wrong with our increasingly inanimate land." She jump-started the native landscaping movement of the 1990s by giving voice to what was being lost in backyards across America....

Sara introduced me to Wild Ones through her book, *Planting Noah's Garden: Further Adventures in Backyard Ecology*.... In the following conversation, Sara shares with me some of her gardening philosophy, a few tips for native landscapers, and some encouragement for the Wild Ones organization.

Wild Ones: You write in *Noah's Garden* that you came into gardening "backward, from the wild verges instead of through the garden gate."

Sara Stein: I started out as a traditional gardener, knowing nothing about gardening. My husband and I were young and vigorous, and we transformed our land from weedy to lovely lawns and bedding. We very quickly noticed that we lost the birds, butterflies, and wildlife we used to have when our yard was a mess! So, we started transforming our now-neat, cultivated place back to the wild.

It's the flock, the grove, that matters. Our responsibility is to species, not to specimens; to communities, not to individuals.

—Sara Stein

WO: By "wild," do you mean you let it go back to how it was when you originally purchased it?

Sara: No. When we first bought the place, it had lots of invasive aliens, such as bittersweet and multiflora roses. It was not a nice native place; actually, it was not native at all. It was overgrown and weedy. Transforming it was quite a job.

WO: What do your neighbors think of the change?

Sara: Well, they haven't complained, but they haven't taken to it, either. They haven't been influenced by my yard. Every year when we burn, we invite our neighbors over and nobody comes. I think it is because my five or six acres are back from the road, and most of my neighbors have large acreages. People don't know each other well here.

WO: Would it be different on a smaller lot?



Sara: On a small property, next to a road, your neighbors can see your flowers and butterflies, and you can have a lot more influence. I have a little place in Maine, on a dead end street, on a saltwater tidal inlet. The whole town can see it from across the water, and many people walk down the little road for the view. So it's more influential....

WO: What's happening on your own property these days?

Sara: Neglect. We burn. Other than that, we try to keep track of invasives like buckthorn and bittersweet. We monitor them. We also keep the paths cleaned up through the wetland, and take down dead branches and pile them up. Someone comes in and helps us now. We've been here 25 years, long enough to watch the landscape develop. It changes on its own. You plan the planting, and the plants do what they want.

WO: It's been a little more than a decade since you wrote *Noah's Garden*. What changes have you seen in attitudes toward native landscaping?

Sara: Most of the changes are incremental. There are more articles about it, more interest in native landscaping, and more native plants for sale

Continued on page 8

Mystery of the Decapitated

In Which Our Intrepid Gardener

Like all wildflower gardeners, I look forward to checking out the garden each day to see what's new. I often do that the first thing in the morning, starting my day off with something cheerful before going in to the pressures of work.

Last summer I was especially looking forward to the first blooms of the only purple coneflower (*Echinacea* sp.) in my new front yard garden. Imagine my dismay when, instead of seeing that first bloom, I discovered a coneflower head nearly severed from the stem. It was hanging by a thin piece of the remaining stem.

The next day my morning optimism was met with the same result. This continued for a week or so. Whenever a purple coneflower head was ready to burst open, it was severed and left hanging adjacent to the stem. I noticed the same thing happening to my rosinweed plants in another garden, yet black-eyed Susans (*Rudbeckia* sp.) were unaffected.

What or who could be doing this? Was it a bird, an insect, or maybe a mischievous neighborhood kid? I quickly discounted the latter option—I couldn't imagine any of the neighborhood kids being so dedicated to a practical joke that they would come back almost every night to repeat it—and a check with several knowledgeable friends did not produce an answer.

Many of you are familiar with what I did next. I sent a plea for help to the INPAWS email list, along with photographs of the sorry-looking coneflowers, confident that I would find some informed member who would know the culprit. I received a number of good replies.

I quickly discovered that I was not alone in my frustration. Many members had similar problems but were also unsure of the cause. A lively email interchange ensued...

I've seen this before, and I can't remember what it is. I suggest going out at night, when it's probably happening, and looking with a flashlight. The insect might be there caught in the act. Maybe a beetle?

Could easily be the common stalk borer...

Groundhogs are notorious for breaking off plant material similar to what is pictured...

A reference suggests "spraying thoroughly and frequently" with acephate or carbaryl....

Insecticides like carbaryl can be very toxic to bees and other pollinators visiting the flowers...

Eventually there developed a consensus that the culprit was a weevil. Eventually I also learned that the answer was as close as my bookshelf! Ruth Ann Ingraham, in her book *Swimming with Frogs: Life in the Brown County Hills*, writes:

Black weevils are beetles that lay eggs at the base of purple coneflow-

ers, prairie dock, and cup plant in my meadow. There must be some ingenious reason why the weevil nearly severs the hollow stem beneath the blossom, leaving a tiny portion that acts like a hinge, before laying its eggs. The blossom falls downward and wilts, yet remains loosely attached to the stem. The eggs later hatch into tiny larvae inside the wilted flower and feed there.

In the ultimate irony, I had just completed reading her book about two months earlier. I think I failed my reading comprehension test.

Later I talked to Bob Waltz, Ph.D., State Entomologist with Indiana Department of Natural Resources to learn more about this strange behavior. Dr. Waltz confirmed that it undoubtedly was a weevil of some type but could not confirm the exact species without a sample specimen. Many weevils would be capable of such actions as I had noticed, but with varying habits otherwise.

I learned that more than 60,000 species of weevil are found worldwide,



Ruth Ann Ingraham snatched this weevil off a coneflower in Shaw Nature Reserve on our September INPAWS excursion to Missouri. Photo by Dawn Steltz.

Coneflowers

Tom Hohman, INPAWS Central Indiana Chapter

Seeks Help from INPAWS Members—and Finds the Answers



Forlorn snapped stems of *Echinacea* among untouched *Rudbeckia*. Photo by the author.

and 2,388 species (at last count) in the U.S. Most are easily recognizable as weevils by the long snout, but after that it gets tough. The easiest identification method for all of us non-entomologists is to take the insect in question to the county office of the Purdue University Cooperative Extension Service. If they are unable to identify it, they will probably send it to the Plant & Pest Diagnostic Lab at Purdue University.

Even without knowing the exact species involved, Waltz was able to explain to me part of what had happened. The weevil culprits had cut the coneflower stalk with their sharp mandibles and laid their eggs in the unopened flower head. The larvae feed in the head until some point at which they drop to the ground. Waltz speculated that the reason they leave

the head dangling is that the eggs and larvae are safer there than they would be on the ground.

The big question that I still had was, What could I do to prevent this?

Like many wildflower gardeners, I accept insect predation as part of nature, often with the pleasurable result of producing butterflies. But this was different. This insect was decapitating my flowers! My tolerance does not extend this far.

Bob Waltz mentioned insecticides, but I shook my head. While I do not totally abstain from insecticides, I normally keep them for a last resort. Several INPAWS members had suggested removing the decapitated head and destroying it. While this does destroy

the larvae, the adults doing the damage will likely have already left.

Unfortunately, the weevils themselves are nocturnal, so the chances of catching them in the act are slim. However, Waltz suggested a trick entomologists use when they are surveying an area. They lay a piece of cardboard or a wood board on the ground. The weevils are attracted to the cover the board provides during the day, crawling under it. If this works, it is then possible to use the old-fashioned “squash ‘em” technique. If only small numbers of the weevil show up in an area, this may be an effective and environmentally friendly way of saving my flower heads.

If the weevils return next year, I will try the board method as well as remove and destroy damaged heads. If any of you have additional experiences with this problem, or find a better way to combat it, I would surely like to learn of it.

Tom Hohman is a professional engineer and INPAWS member who has had a lifelong interest in nature-related activities. His interest in wildflower gardening began only six years ago when he was given a jack-in-the-pulpit seedling by Jimmy New of J.F. New Nursery. The plant promptly died, but Tom has been hooked on wildflower gardening ever since.

Ed. Note: Member Bobbi Diehl points out that the native American goldfinch, which is struggling somewhat in its competition with the introduced western house finch in this area, adores purple coneflower seeds. “One will sit on a seed head and just pig out for half an hour or more. So we need all the help we can get growing echinacea!” Thank you, Tom, for alerting us to preventive measures that may mean more seed for the goldfinches.

Annals of a Duneland Orchid

Barbara E. Plampin, Ph.D.
Shirley Heinze Land Trust



January, 1974. The downy rattlesnake plantain orchid (*Goodyera pubescens*, hereafter DRPO) in my Christmas present terrarium dies. I mourn the three-inch spike of dense, tiny, fat-pouched, white warty-petaled flowers rising from a basal rosette of white-netted, snake's-head-shaped evergreen leaves.

"Downy" refers to the pubescence on the stalk and within the flower. (Warts and hairs are best viewed with magnification.) In the wild, the July-to-August blooming flowers can produce up to 16-inch spikes. Find them in

Downy rattlesnake plantain (*Goodyera pubescens*). Photo ©Keir Morse at www.keiriosity.com.

about 28 Indiana counties. To me, the leaves are the thing. Rhizomatous, plants can form dense colonies especially delightful to the winter hiker.

Summer, 1985. I explore damp woods bordering a local commuter railroad station parking lot for the DRPO found by Indiana Dunes National Lakeshore (IDNL) biotechnician Ken Klick. Ah! I spot a small colony near dwarf ginseng (*Panax trifoliata*) and swamp maple (*Acer rubrum*). Shining club moss (*Lycopodium lucidulum*) pushes up its shaggy bottlebrush spears nearby.

March, 1988. Parking lot expansion announced. Negotiations to save woods fail.

Sara Stein, *continued from page 5*

in nurseries. When I speak, the audiences are larger and more varied.... I did a keynote talk, "Home Ground Ecology 101," for several thousand members of the Ecological Society of America. Ecologists are usually interested in what is already in the landscape, rather than thinking in terms of what could be planted. The idea of *making* an ecosystem is new to them.

WO: Some of the attention you have received has been negative. Wasn't your criticism, in *Noah's Garden*, of writer Michael Pollan's planting of a Norway maple followed by his criticizing your gardening philosophy and the "natural garden movement" in the *New York Times*?

Sara: (*laughs*) He called me a "Plant Fascist." Now my husband introduces me as "The Plant Fascist"....

WO: If you were to offer one bit of wisdom to those attempting native landscaping for the first time, what would you say?

Sara: Very simple. Everyone has an ugly, over-trimmed hedge or foundation planting. Substitute it with something fruitful, and you'll have birds right away. For example, my niece, who has children, put in a rasp-

berry hedgerow. Her kids think this is the most wild and fantastic thing—to pick fruit and eat it! Or you can plant a small-fruited crab apple tree. It will attract a whole flock of robins, or maybe some bluebirds. Do anything that gives you a quick, cheap return on your money.... Put in a little water spot. In Maine, I made a quarry pool. The frogs came the minute the water was turned on. Even in just a little pool, children will see things right away—frogs, dragonflies.

WO: Those are simple ideas.

Sara: You can't ask people to do a whole yard. Most of them don't have enough labor or money. But you can do one good deed for your yard, and make a dramatic difference.

WO: This makes native landscaping seem approachable.

Sara: If you ask people to go native all at once—to change everything—it's terribly difficult for them. But you can ask them to think about planting a tree, and to choose that tree wisely. Maybe plant an oak tree with acorns. The money they spend is the same.

WO: Do you think native landscape aficionados [are] too demanding?

Sara: The idea can become too "precious," too "cultish." Native land-

scaping should be easy. Everyone can be encouraged to do one little thing.

WO: What is the biggest challenge facing our country in the area of biodiversity?

Sara: There aren't enough resources, and we have too many people. And here I am with four kids and six grandkids! But there are too many people. There's no easy solution to that.

WO: Are there things the Wild Ones can do as an organization to better promote native landscaping?

Sara: The more visible your projects, the more you will get people to come and see. Write about biodiversity. When ornamental grasses became popular in gardening, the fad began with magazine articles. Everyone had ornamental grasses for sale. People look at gardening magazines. Go for every kind of publicity you can get....

This abridged interview may be viewed in full at the Wild Ones website. Adapted with permission from the Wild Ones: Native Plants, Natural Landscapes at www.for-wild.org or 877-394-9453. Wild Ones promotes environmentally sound landscaping practices to preserve biodiversity through the preservation, restoration and establishment of native plant communities.

A Saturday in September, 1988.

Bulldozer and I arrive simultaneously in woods. "Stay north while I dig," I shout. Bulldozer obliges while I frantically dig orchids and club moss.

Later, same day. IDNL botanist Noel Pavlovic supervises a friend and me in transplanting orchids and moss in adjacent woods farther east. We hand-carry water in, but fail to map the location.

Commuters toss in trash.

Early 1990s. Alarm and sorrow. I can't find the orchids. Plants dead or merely lost? Recently fallen trees no help. (Club moss died the first winter.)

February, 1995. A friend and I find new DRPO colonies several miles to southeast. They flourish in an ecotone slope between sand and black cherry woods, at the edge of a former house site, and in a tire-piled sand pit (almost blue leaves here). A fine colony of 90 thrives in a neighboring abandoned road. Also relocated, a colony found on north slope in rich woods.

Spring, 1995. Abandoned road becomes official IDNL trail. Promise to save orchids by rerouting trail falls through the cracks. Ninety orchids ground to dust.

Summer, 2002. Hooray! Commuter station parking lot orchids back, two

colonies now, found by me and a visitor.

March, 2005. Local newspaper headline: COMMUTER STATION PARKING LOT TO EXPAND

► *To Be Continued* ◀

Some Books

Homoya, M. *Orchids of Indiana*. Indiana Academy of Science, 1993.

Swink, F., and G. Wilhelm. *Plants of the Chicago Region*. 4th edition. Indiana Academy of Science, 1994.

Yatskievych, K. *Field Guide to Indiana Wildflowers*. Indiana University Press, 2000.

BOTANY 101, LESSON 27

Scrophulariaceae = Snapdragon Family = Foxglove Family

Rebecca Dolan, Ph.D.

Friesner Herbarium, Butler University

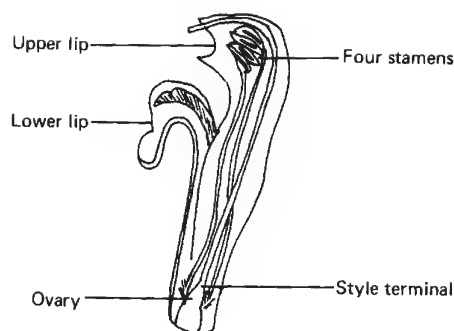
The snapdragon and foxglove family comprises about 220 genera and 3000 species worldwide. Indiana has about 24 genera and 59 species.

Characteristics

Mostly annual and perennial herbs, although there are some woody members, such as Princess tree.

Flowers irregular with parts in 5s (sepals and petals sometimes fused and 4-lobed), usually showy. Corolla two-lipped. Stamens 4, sometimes with a 5th staminoid (modified stamen, such as the hairy, sterile staminoid that is the bearded tongue of beard-tongues).

Stem can be square, easily confused with mints, although leaves are usually alternate. Fruit a capsule.



Economic Importance

Some garden ornamentals, including snapdragon, turtlehead, beard-tongue, and foxglove.

Heart drug digitalis is from foxglove. Some are semi-parasitic on the roots of other plants.

Some Scrophs in Indiana

Native

Beard-tongues, *Penstemon* spp.

Blue-eyed Mary, *Collinsia verna*

Culver's root, *Veronicastrum virginicum*

Indian paintbrush, *Castilleja coccinea*

Late figwort, *Schrophularia marilandica* (my favorite, the family name-sake genus, always only a few plants in an area)

Louseworts, *Pedicularis* spp.

Monkeyflowers, *Mimulus* spp.

White turtlehead, *Chelone glabra*

Non-native

Butter-and-eggs, *Linaria vulgaris*

Common mullein, *Verbascum thapsus*

Moth mullein, *Verbascum blattaria*

Speedwells, *Veronica* spp. (mostly non-native, a few natives)

Pawpaw, *Asimina triloba* (L.) Dunal.

The Indiana Banana

Marion T. Jackson.
Professor Emeritus of Ecology
Indiana State University

Where o' where is pretty little Susie?
Where o' where is pretty little Susie?
Where o' where is pretty little Susie?
Way down yonder in the pawpaw patch.

Pickin' up pawpaws, puttin' 'em in her pockets.
Pickin' up pawpaws, puttin' 'em in her pockets.
Pickin' up pawpaws, puttin' 'em in her pockets.
Way down yonder in the pawpaw patch.

Come on boys let's go find her.
Come on boys let's go find her.
Come on boys let's go find her.
Way down yonder in the pawpaw patch...

So went the sing-song refrain of the square-dance caller as we clogged to that tune in the early 1950s.

Dating from pioneer days, this song relates in a general way to the ecological conditions where and how pawpaw trees typically grow. Large colonies (patches) are routinely found on well-drained mesic soils, especially in ravines and along stream courses, in rich woodlands from New York state across to Michigan, thence to Nebraska, south to Texas, and east to Florida. Three states—Michigan, Illinois, and West Virginia—have small towns named for this tree.

Apparently pawpaw colonies typically originate from one or a few germinating seeds, after wildlife species eat the fleshy fruit, then disperse the large, glossy-brown flat seeds. Root suckering from the original seedling enlarges the clonal colony, as it often grows concentrically around the parent plant, thereby producing a thicket of usually genetically identical above-ground plants. This growth pattern frequently results in larger, older trees

in the colony center with progressively shorter, younger individuals toward the periphery.

Both pawpaw and sugar maple seedlings have increased dramatically in the understory of old growth Midwestern forests in recent decades, primarily due to fire suppression, absence of logging, and the loss of American elm, all of which favor these shade-tolerant, fire-sensitive species. Pawpaw increases are further augmented by the absence of deer browse. Deer find pawpaw unpalatable, likely due to the disagreeable odor of the leaves when crushed. Also, pawpaw twigs are a source of acetogenins (currently being investigated as a source of anti-cancer drugs

and botanical insecticides), which may repel deer.

Pawpaw plants are more often encountered as shrub-sized rather than tree-sized individuals, with larger trees only rarely reaching more than 30 feet tall or greater than 6 inches in diameter. About 1959, our Dendrology class visited a pawpaw tree at a private residence along South Grant Street in West Lafayette that taped 11+ inches dbh—the largest specimen that I have ever seen—but the tree was gone some 15 years later when I revisited the site. A few pawpaw trees greater than 6 inches dbh were tallied during my 1969 forest survey of Hemmer Woods in Gibson County, Indiana. Romeyn Hough reported a specimen 18 inches dbh in his 1960 *Handbook of Trees of the Northern States and Canada*.

The Annonaceae, noted botanically for having some of the largest pollens in the Plant Kingdom, are a moderately large family of mainly tropical species, the majority of which are Old World. Only two genera occur in the United States: *Annona*, the Pond Apple of South Florida, and *Asimina*, the widespread pawpaw (from *asiminas*, the



Pawpaw flowers, as ill-scented as the decaying flesh they resemble. Photo by Rick Mark at www.usi.edu/science/biology/TwinSwamps/Wildflowers_of_Twin_Swamps.htm.

French name for the fruit). *Asimina's* specific name, *triloba*, is from the three parts (or lobes) of its floral structure. The euphonious common name pawpaw (sometimes spelled papaw) is the Native American name for the fruit.

The handsome large leaves (to 1 foot long and 3–5 inches wide) give the pawpaw tree a distinctive tropical appearance. Especially in autumn, when the leaves turn a buttery yellow and gleam beneath the forest canopy like Nature's neon signs, pawpaws become truly enchanting.

The flowers, which emerge with leaf expansion, are equally noteworthy and may reach 1–1½ inches in diameter. They are green at first; then the three crinkled, leathery sepals and six similar petals turn a deep maroon, the color of raw steak. Ill-smelling, somewhat like the decaying flesh they resemble, the flowers usually attract fly or beetle pollinators, although bees sometimes visit.

Like the trees themselves, the fruits are called pawpaws, or in our state “Indiana bananas”—it's “Michigan bananas” north of our border—because of their distinctive shape and taste. Fruits usually range from 1¼ to 1¾ inches in diameter by 3–5 inches long, although I have seen huge pawpaws reaching 2 by 6 inches, the largest native fleshy fruit in Indiana. Technically, the pawpaw is a berry, since it is derived from a single pistil, and has a number of seeds embedded within the pulpy matrix.

Both white- and yellow-fleshed fruits occur, with the bright yellow pulp being far and away the more tasty. They usually become fully ripe in October, and improve in flavor after frost. Most people either really like the fruits or actively dislike them. Some who try pawpaws consider them too sweet, even mawkish. I find them delicious when fully ripe, and equally nutritious. Usually they are eaten raw, and they make a passable pawpaw cream pie (à la Euell Gibbon's recipe), but extracting the pulp from the stringy fibers proved worrisome. When I was growing up, in season we occasion-

Pawpaw fruit. Photo courtesy of Ohio University, where research shows that pawpaw may be a suitable fat substitute in health-conscious cooking.



ally flavored our homemade ice cream with pawpaw pulp for a true delicacy. James Whitcomb Riley, in his inimitable Hoosier dialect, extolled this wild fruit in his poem, *Amazindy*:

And sich pop-paws! — Lumps o' raw
Gold and green, jes' oozy th'ough
With ripe yaller — like you've saw
Custard-pie with no crust too.

In his book, *Follow the River*, James Alexander Thom described his heroines' reliance on pawpaws for food during their trek from Kentucky back to present-day West Virginia, after escaping from their Native American captors. Also, it was recorded 200 years ago that members of the Lewis and Clark expedition were saved from food shortage after they re-entered Missouri on their return trip by eating abundant pawpaws, when wild game had grown scarce.

Some people contract dermatitis from handling or eating the fruit, so care should be exercised when using pawpaws. Also, the pulp can be mildly cathartic if eaten in large quantities, as Thom's heroines discovered!

Individual pawpaw trees, or even large groves, do not bear fruit each year, so finding the ripe fruit is chancy at best, especially when considering that many wild mammals relish pawpaws as well. Once when touring the state in search of new county tree records for *101 Trees of Indiana*, John Bacone

and I found some choice fruit hanging from large trees along a rural Howard County road, and picked our pawpaws from the car window!

The wood is very lightweight at 24 pounds/cubic foot, soft, somewhat porous, and yellowish-green in color. Trees are generally too small to be harvested, but apparently our pioneer ancestors carved wooden spoons, small kitchen utensils, and fishnet floats from the wood. The inner bark has long fibers, and, as such, was used by Native Americans for fish stringers and fishnets.

The pawpaw makes a lovely ornamental and should be more used as such. A number of people are working toward growing the trees horticulturally for fruit production. Wild-grown fruit spoils rather quickly when taken to market, but cultivars hold future promise. The “Indiana banana” holds special meaning for me, for “Paw Paw” is the name our darling two-year-old granddaughter Mia has chosen for me!

Indiana Native Plant and Wildflower Society

Small Grants Program Guidelines for 2006

NOTE: March 1, 2006, is the deadline for grant proposals to be submitted.

This will be the *only* time for grant proposal submissions in 2006.

INPAWS' small grants program supports projects that are in line with the mission of the society. In 1998, the Board allocated \$10,000 from the general fund to an endowment account. The interest from this account is available for grants. **The Awards Committee anticipates funding two grants of up to \$500 each in 2006.** These grants can be used in conjunction with other sources of funding for projects that support the mission of INPAWS.

The mission of INPAWS is to promote the appreciation, preservation, conservation, utilization, and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity, and environmental importance of indigenous vegetation.

Applications are requested from groups or individuals and must be e-mailed (*preferred*) or postmarked by **March 1, 2006.** They will be reviewed by the Small Grants & Awards Committee.

Successful awardees **must prepare a poster or other presentation** to share with the membership at the INPAWS Annual Conference after the project is completed.

At the discretion of the Board and membership, **larger awards may be made** from time to time from the assets of the operating budget. Requests for funds for special projects may be made at any time to the Executive Committee. All requests must be made in writing with a clear statement of how the award would further the mission of INPAWS and benefit our membership.

Application Procedures for INPAWS Small Grants Program

1. Cover sheet, including:

- ▶ Name of project
- ▶ Amount requested
- ▶ Location
- ▶ Applicant/contact person information—name, address, telephone, email
- ▶ New or existing project
- ▶ Category that best describes the project—research, training, education, conservation and habitat, demonstration garden, etc.
- ▶ Prior INPAWS funding

2. Text of proposal, not to exceed 2 pages:

- a) Summary of the project, not to exceed 50 words
- b) Clear, concise description of the project, including:
 - ▶ How does the project further the INPAWS mission?
 - ▶ Why is the project needed?
 - ▶ Specific objectives to be achieved

- ▶ Specific information on how INPAWS grant funds would be used, including a detailed species list of all plants and seeds to be used
- ▶ Who benefits from the project? How many? How do they benefit?
- ▶ Names of organizations involved, if any, with a brief description of each, including number of members
- ▶ Financial resources committed to the project from other sources, if any
- ▶ Anticipated starting and completion date of the project

3. Budget sheet, showing:

- a) Labor, material, and program costs
- b) Sources and amounts of funds already raised, if any
- c) Total cost of project

E-mail 1 copy (preferred) or **mail 4 copies** of the grant proposal postmarked by March 1, 2006 to Joan Mohr Samuels at mohrsamuels@insightbb.com or 5828 Prophets Rock Rd., West Lafayette, IN 47906.

The Green Dragon *Arisaema dracontium*

Gene Bush, Munchkin Nursery

Green dragon. The name conjures up images of forbidden forests, the smell of brimstone, drifts of smoke upon the still air. Though no belching of flame reveals its location in its native woodland haunts, in the garden the green dragon lends a formidable presence.

Perhaps lingering in incendiary dreams, *Arisaema dracontium* rises late. It emerges well after Jack-in-the-Pulpit (*A. triphyllum*)—at the tail end of April in my southern Indiana garden, with the warmer winters and springs we have been having, and sometimes not until early May. The emerging *Arisaema* resembles an umbrella. Completely formed in all parts, the green dragon first pushes up the bloom with foliage unfolding along each side. As the plant matures, foliage comes up and over the bloom, which is actually a modified leaf. I have never seen more than one bloom on a stalk.

The size of green dragon varies widely with genetics, the environment, and cultural practices in the garden, ranging from about 15 inches to just over 30 inches in height. The tall, stout stalk sprouts from a shallow tuber and carries no foliage except at its end. There, 5 to 15 leaflets form around the outside edge of a half circle that some liken to a horseshoe. The half circle sits centered upon the stalk.

The mature *Arisaema* blooms about one-third to one-half of the way up the stalk. On a slender stem, a fleshy tubular inflorescence forms with a long pointed “tongue” reaching upward alongside the stalk. This modified leaf

can reach 2 inches or more in length; the tongue can reach 6 inches or more. I have seen the tongue coloration range from the same green as the rest of the plant to orangey-yellow.



While walking the woods, look for *Arisaema dracontium* in wet shaded areas. I found my first growing in my own back yard in a drainage ditch at the edge of a woodland. Seepage areas, floodplains, and the edges of small streams are primary places of discovery, but the plant does not demand that environment. I have several in my garden, some of which reside at the base of a mature tree in rocky soil. The ones in drier places simply do not get as large as the ones that have ample moisture. Good, rich humus and a loose, leafy mulch that decays produces a nicer plant in the garden—as with any other garden plant, the better the environment, the better the plant performs. If you choose to use fertilizer, which I do not, be very careful. *Arisaema dracontium* does not need a lot of nitrogen and can easily burn.

A “giant” form of *Arisaema dracontium* occurred in my garden some years back. While walking a path, I noticed a single green dragon coming up from the middle of a drift of *Begonia grandis*. Somehow this individual appeared different from the others in my garden, reminding me of the Himalayan species *A. heterophyllum* that, at first glance, looks like *A. dracontium* on steroids. I moved the plant to a different location where for several years now it has been reaching a height of 5 to 6½ feet. It is a heavy producer of seed and does a decent job of producing offsets. Several mature plants, along with immature offsets, now grow on a steep hillside with Christmas

ferns and large limestone rocks as company.

The green dragon contributes great architecture to gardens and conveys a sense of uniqueness. The most colorful part of a mature green dragon is the seeds. Come late August and September, the shiny green seed clusters turn to scarlet, waxy berries lying across the green of nearby plants. I find the show of seeds to be as colorful as any perennial bloom.



Photo by Janice Stiefel, courtesy of University of Wisconsin—Stevens Point.

Arisaema dracontium always looks good with ferns. The groundcover partridge berry (*Mitchella repens*) is probably my favorite companion.

Text ©2005 by Gene Bush. Gene owns and operates Munchkin Nursery & Gardens, LLC, in southern Indiana and writes of gardening experiences and plants grown in his hillside garden. He can be reached at www.munchkinnursery.com. For a hard copy catalog, send \$3 to 323 Woodside Dr. NW, Depauw, IN 47115-9039.

INPAWS thanks the speakers, sponsors, exhibitors, and numerous volunteers who made our November 5 Annual Conference a success.

Speakers

Bill Cullina, New England Wildflower Society

Don Ruch, Ball State University

Bob Barr, IUPUI

Stephen Perrill, Butler University

Paul Rothrock and Janna McIndoe, Taylor University

Lenore Tedesco, IUPUI

Neil Diboll, Prairie Nursery

Exhibitors

Medicinal Plant Garden of the Indiana Medical History Museum, Kathy Hull

Indiana Dept. of Transportation, Jeanette Wilson and Bill Fielding

Central Indiana Land Trust (CILTI), Maria Steiner

Munchkin Nursery, Gene Bush

Friends of the Sands, Alyssa and Gus Nyberg

Avon Outdoor Learning Center, Carol Ford

Bryan Hanson, author of *Understanding Medicinal Plants*

Whitewater Valley Land Trust, Inc.

McCutcheon High School "Naturally Wild," Micky Penrod

Sponsors

Institute of Botanical Training, Dana and Justin Thomas

Heartland Restoration Services, Ben Hess

Art Hopkins Landscaping

JFNew, Scott Namestnik

INPAWS Officers Elected for 2006

Karen Hartlep, President

Ellen Jacquart, Vice President

David Savage, Recording Secretary

Ruth Ann Ingraham, Corresponding Secretary

Cheryl Jensen, Treasurer

Opportunity: INPAWS Annual Conference Coordinator

Coordinating the INPAWS annual conference is an extremely satisfying effort, says Nancy Hill who ran the past two years' outstanding events. It involves decisions about who, what, and where and, like a big wedding, requires following up on details and making sure everyone and everything is where it should be. There is always good input from other INPAWS members about speakers and venues, and 90 percent of the coordinating can be accomplished via e-mail. Detailed notes for the last two conferences, including a CD with all documents and correspondence, are included in notebooks ready for the new coordinator. It is a fun way to meet experts in a variety of fields. Volunteers help with catering, exhibitors, set-up and clean-up, book sales, and registration. If interested, contact Karen Hartlep at khartlep@RATIOarchitects.com or 317-633-4040.

IMA Offers Internships

Indianapolis Museum of Art seeks gardeners for three-month internships this growing season. A highly trained and motivated full-time staff of 11 works with interns on a rotating basis. Features include a formal garden, a cutting garden, mature and new perennial gardens, annual plantings,

and a retail greenhouse. Candidates must be studying horticulture, botany, or related field in college or have related experience in gardening; must display a strong interest in public horticulture; and must be able to handle the physical tasks to complete the job requirements. Assistance in locating housing is available. Compensation: \$8/hour. Apply by March 1, 2006. Contact Gardens Supervisor Chad Franer at cfraner@ima-art.org or 317-920-2662 ext. 500.

Prophetstown Earns INASLA's 2005 INPAWS Award

This year's recipient of the *INPAWS Award* of the Indiana Association of Landscape Architects was the project "Prophetstown State Park, Phase 1." The INPAWS Award plaque was presented to landscape architecture firm Kevin K. Parsons & Associates, Inc., and also to the Indiana Department of Natural Resources, which played a large role in the project.

Prophetstown was honored with the award because the project:

- Prominently features plants native to Indiana and features about 90 different prairie species native to Tippecanoe County planted in huge numbers.
- Creatively integrates native plants with local natural materials in the construction of its facilities, playgrounds, benches, and a bridge, giving a cohesive look to the park and achieving a "prairie style park" that is appropriate to the site and in line with the park concept.
- Was designed in such a way that the Phase 1 facilities were put in without disturbing the existing wetlands and fens, thereby preserving the native vegetation already in place.

The INASLA Professional Awards Program recognizes professional excellence and outstanding examples of landscape architecture by Indiana landscape architects and honors works that represent the forefront of the profession and embody high levels of creativity and imagination.

Awards are given in three categories. Constructed Projects and Unbuilt Work are reviewed and judged by an independent jury of landscape architects from another state. Candidates for the INPAWS Award are reviewed by an INPAWS jury. Jury members this year were Joan Mohr Samuels, Brian Tunis, and Diane Beasley.

Weeds Gone Wild: Alien Plant Invaders of Natural Areas

This web-based project of the Plant Conservation Alliance's Alien Plant Working Group provides information for the general public, land managers, researchers, and others on the serious threat and impacts of invasive alien (exotic, non-native) plants to the native flora, fauna, and natural ecosystems of the United States.

Along with a compiled national list of invasive plants infesting natural areas throughout the U.S., the site provides background information; illustrated fact sheets that include plant descriptions, native range, distribution and habitat, management options, suggested alternative native plants, and other information; and selected links to relevant people and organizations. Visit www.nps.gov/plants/alien.



Forces Against Nature

The Brown County Hills Project provides an object lesson in all the obstacles that human beings pose to the conservation of native flora and fauna.

The Project identified six conservation targets within the Brown County Hills area. These were the matrix forest, forest interior birds, Kirtland's snake, timber rattlesnake, yellowwood trees and first- to third-order streams. With these targets identified, they looked at what stresses were degrading or impairing each target, and what was the source of that stress.

Among the sources of stress to the Brown County Hills area conservation targets were:

- Fire suppression
- Excessive deer population
- Incompatible forestry practices that promote shade tolerant species
- Invasive species
- Incompatible development of homes
- Incompatible development of roads and utilities
- Incompatible agricultural practices
- Inappropriate agricultural practices
- Water management
- Loss of riparian habitat
- Stream channel alteration
- Inappropriate wastewater management
- Poaching or commercial collecting
- Incompatible open land management
- Incompatible wildlife management practices

"Once you know the source of the stress," said Dan Shaver of The Nature Conservancy, "you can work toward strategies that alleviate or minimize the source of stress, helping your conservation target." Dan wrote about the Brown County Hills Project in the Summer 2005 issue of INPAWS JOURNAL.

COMING EVENTS

Thursday, February 9 IMA Horticultural Society Lecture: Colorful Combinations for the Shade Garden

7:30 pm, DeBoest Lecture Hall,
Indianapolis Museum of Art, Free

Blessed with an abundance of shade? Rather than curse the darkness, take full advantage of what nature has bestowed. Gene Bush of Munchkin Nursery shares his experience with great garden companions and their behavior over the full gardening season, proving there is no shortage of color for shade gardens.

Monday, February 20 Conservation Day at the Statehouse

Organized by the Indiana Conservation Alliance (INCA), this is an opportunity to influence your legislators to support a conservation ethic in the state. Volunteers are needed to staff the INPAWS booth. Contact Karen Hartlep at khartlep@RATIOarchitects.com or 317-633-4040.

Saturday, April 1 Fourth Annual Prairie Creek Barrens Restoration Day

INPAWS members and friends are again invited to help restore one of southwest Indiana's rarest vegetation types—sand barrens. A remnant of the type exists at the state-owned Prairie Creek Barrens Nature Preserve in northern Daviess County. Thanks to an IPL Golden Eagle Grant, we will have over 9,000 plugs of various prairie grasses and forbs to plant. Contact Mike Homoya before March 15 at mhomoya@dnr.in.gov or 317-232-0208 for additional details, including meeting time and location.

Resolutions

Wendy Ford,
Editor

For the past two years a resolution high on my New Year's list has been "take up bellydancing." At last having located a suitable teaching DVD—the ample, bejeweled Jillina will be my Level 1 instructor—I should soon be on my way, and high time, too, as December saw me pass the start of my seventh decade on this planet. This leaves me casting about for a new resolution to fill out my list for 2006.

I'm guessing that some of you are in the same boat, and I have some resolution ideas to share with you.

Recently I had the pleasure of perusing INPAWS committee chairs' descriptions of what their committees do. Every year I'd pondered the check-off list of volunteer opportunities on the membership renewal form, not really knowing where I could fit in—in particular, not wanting to get stuck with too much responsibility before I learned the ropes. Now I had before me details of the worthy efforts put forth by leaders and followers in our all-volunteer organization—and you will too, if you scan the back of the membership renewal form that recently arrived in your mailbox.

Among the listed opportunities, I saw some that looked fun, not too difficult, and promised to tap into the friendship, enlightenment, and good feelings that come with volunteer service to INPAWS. I offer those now to pique your interest as you decide where to focus your community service this year.

✓**Help plan a field trip.** Our bus trip to Missouri Botanic Garden was a world of fun—INPAWS people make fascinating travel companions—and such excursions always require helpers to work out the logistics. The Program/Field Trip committee will make you feel welcome.

✓**Talk up native plants** at your local library, neighborhood association, or garden club. No need to be an expert, just tap into your enthusiasm. The Speakers Bureau provides prepared scripts along with slides or PowerPoint presentations.

✓**Dream up a project** that promotes Indiana native plants or educates the public about their beauty, diversity, and environmental importance. Then apply for funding from INPAWS' Grants & Awards program (see guidelines on page 6).

✓**Greet the public** at an INPAWS information table. Share the joys of landscaping with natives. Swap stories with those who already do, and bring them into the INPAWS fold. Warm bodies are needed to staff INPAWS tables all over the state. One of them should be you. Sign up with the Education, Invasives, Conservation, or Publicity committee.

✓**Learn how to talk to your legislators.** Receive training on Conservation Day at the Statehouse in February, and be prepared to advocate for Indiana native plants or any other issue that floats your boat.

✓**Get your hands dirty.** Rescue, propagate, or overwinter potted Indiana natives under the auspices of the Native Plant Rescue committee.

✓**Make yourself indispensable.** Are you attentive to detail? Our spring Plant Sale/Auction and fall Annual Conference encompass a multitude of discrete tasks and processes that require loving attention. Flex your organizing muscles on a small scale by taking on one of these.

Add just one of these resolutions to your list, and you'll be helping INPAWS further its mission in 2006. And don't even think about asking me to bellydance at your next INPAWS chapter pitch-in. I won't be ready for that until at least 2007!



INDIANA NATIVE PLANT
and Wildflower Society

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